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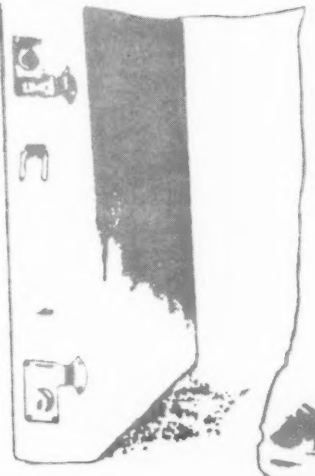

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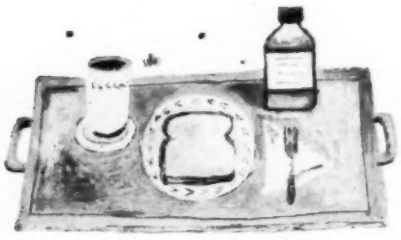

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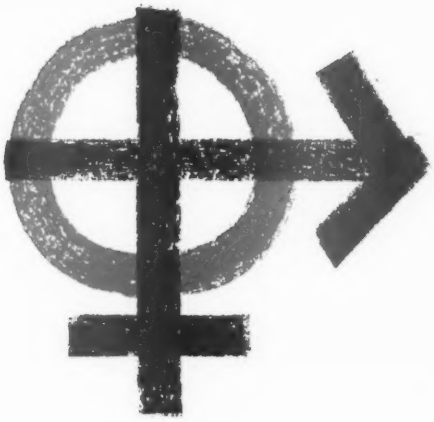

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*Moravec, C. L., and Moravec, M. E.: New York J. Med. *55*:2775, 1955.

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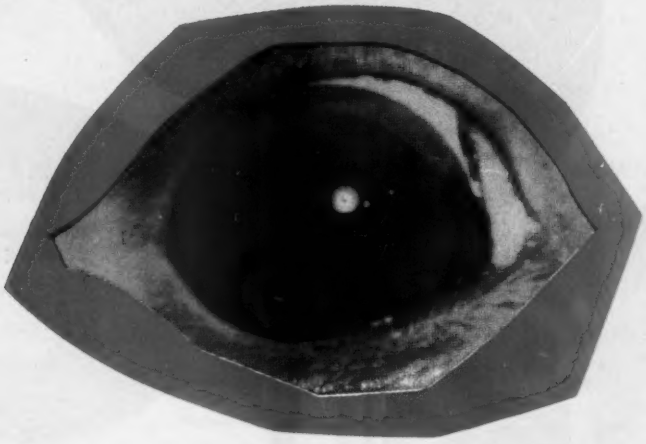

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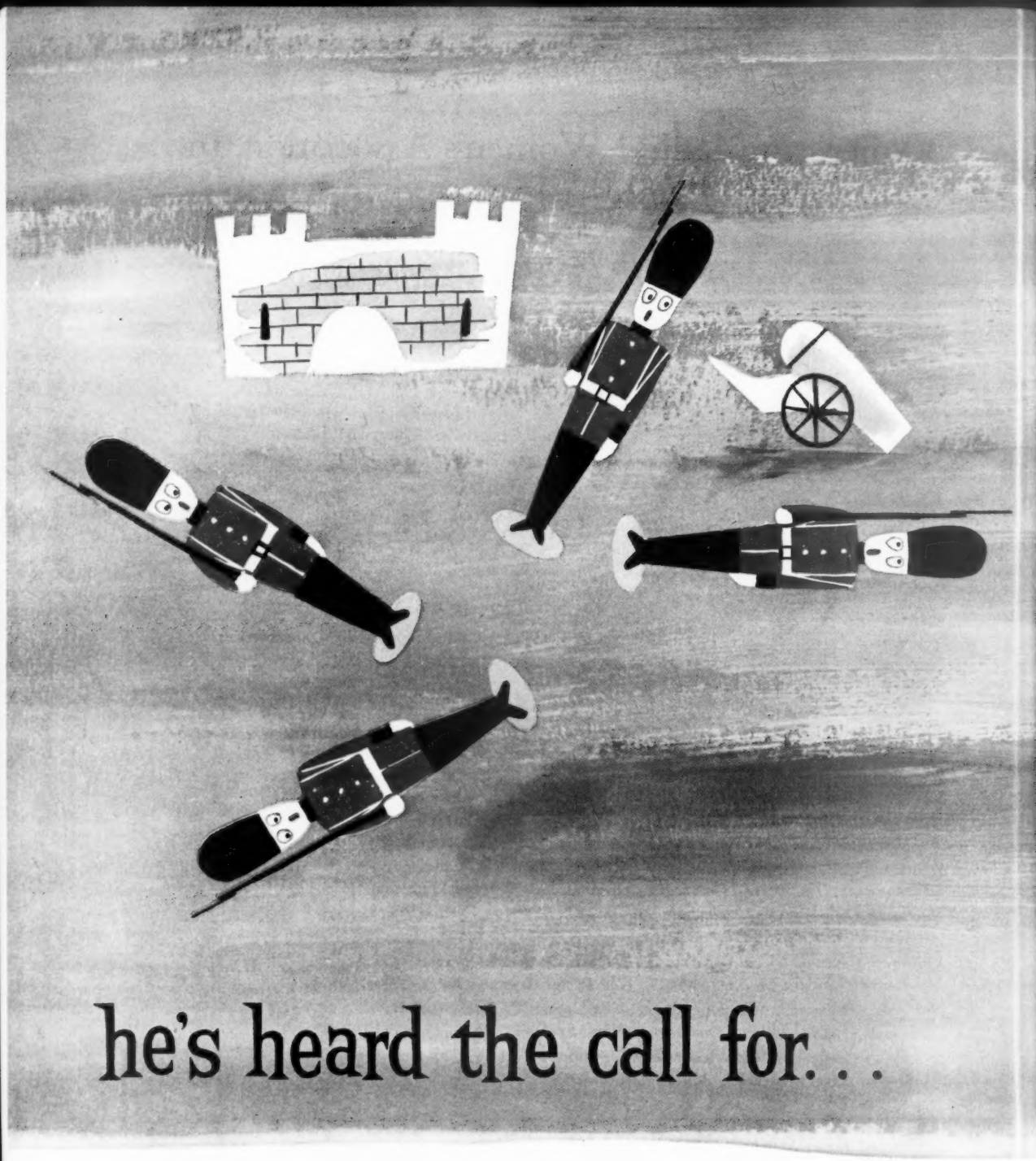

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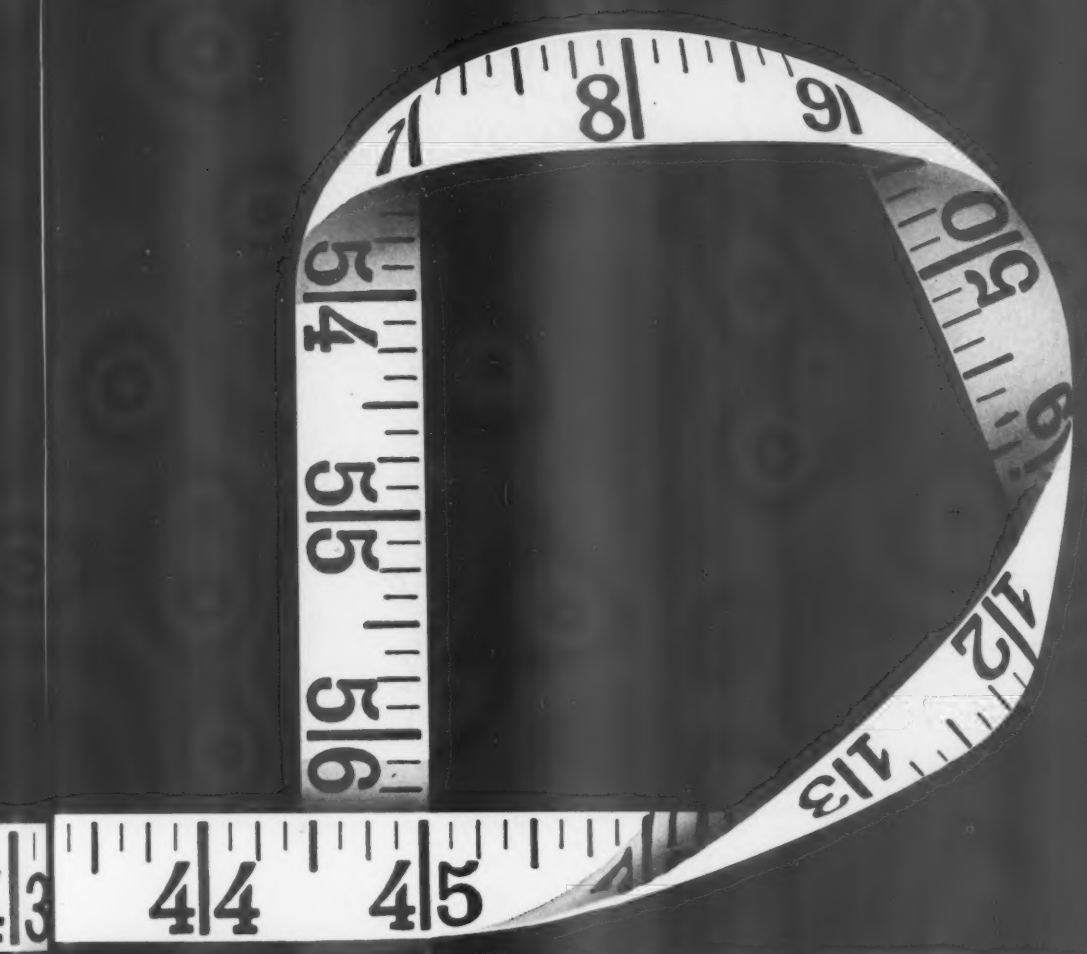

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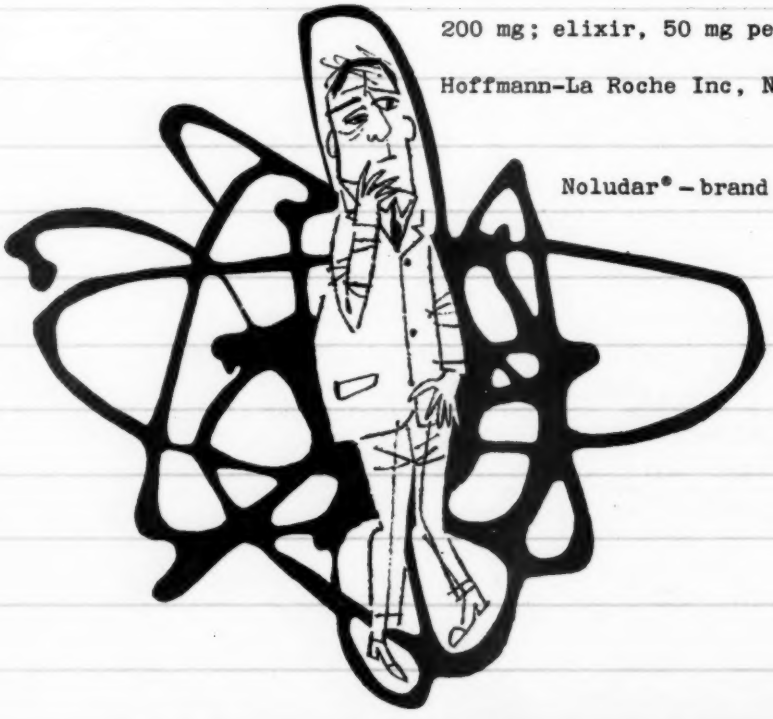

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(Continued on page 18)

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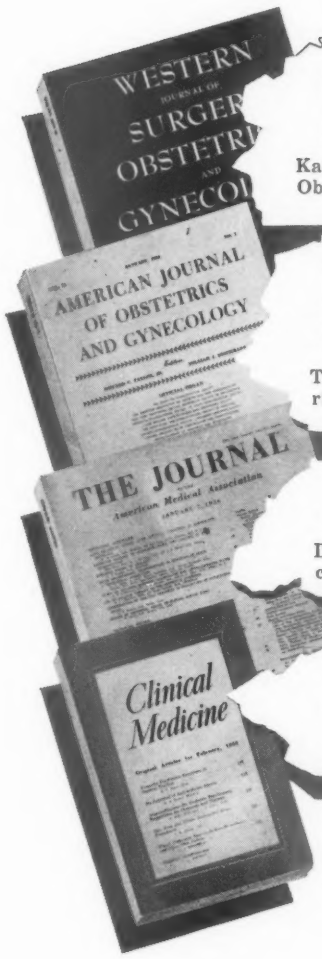

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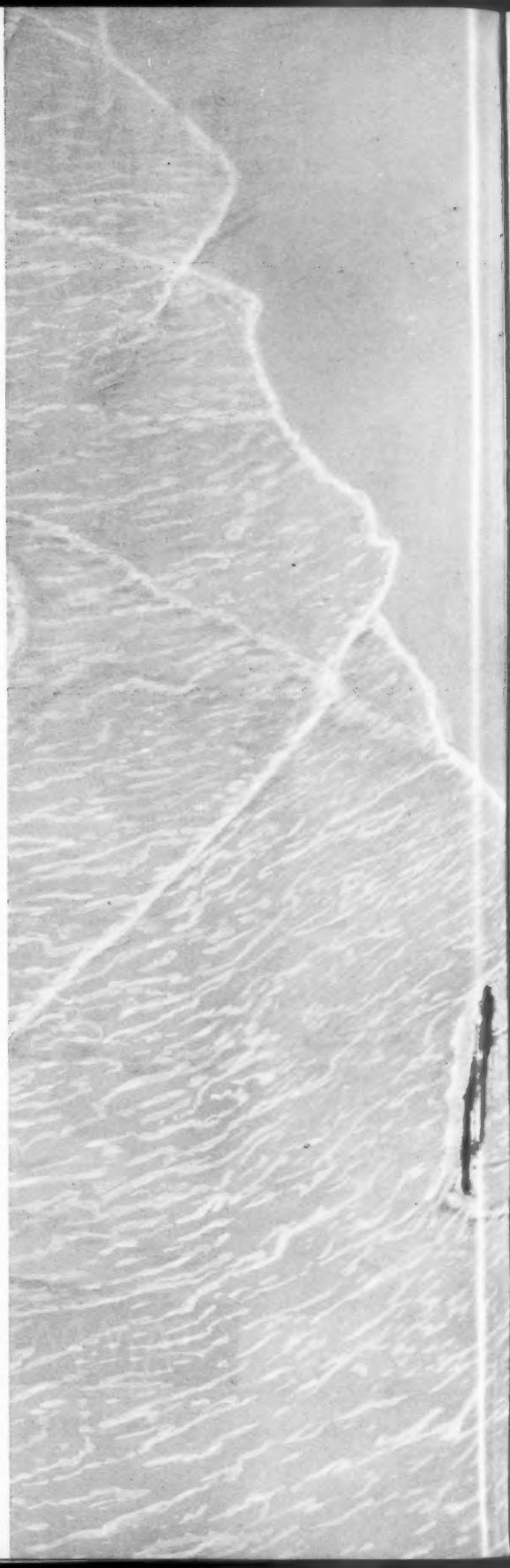

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Journal of the
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VOLUME 11 AUGUST 1956 NUMBER 8

The New and the Old in the Treatment of Epilepsies

EARLY HISTORY

Ruth W. Baldwin, M.D.

EPILEPSY, AN AFFLICTION almost as old as time itself, stands out as one of the least known and least understood conditions of the human body. It has been cast back and forth from religious to magic to natural causes, and today it still maintains the connotation of the disease of the three "S's," sin, shame, and superstition.

One of the earliest records of epilepsy (2080 B.C.) is to be found in a part of the Code of Hammurabi dealing with the marriage of epileptics.[1] This record is noteworthy, not only because of its age but also because it shows that epilepsy was suspected of being a disease. However, the oldest and most informative piece of writing is to be found in the Hippocratic collection of medical writings, "On the Sacred Disease."[2] This collection condemns the magicians, wizards, and charlatans of that day for their practice of calling epilepsy a sacred disease. It reads, in part, as follows:

"—the gods do not make men's bodies unclean as the magicians would have them believe. Epilepsy is not more divine than other diseases are. Like all diseases, it is hereditary; its cause lies in the brain, a brain overflowing with a superfluity of phlegm. When the phlegm rushes into the blood vessels of the body, it causes all the symptoms of the attack. The releasing factors of the attack are cold, sun, and winds which change the consistency of the brain. These cosmic phenomena the author considers divine, but since they influence all diseases, all diseases are divine, though human at the same time because of their physiological substratum. Epilepsy, therefore, can and must be treated not by magic but by diet and drugs, provided that it has not yet become chronic."

Many years before the Hippocratic collection existed, epilepsy was considered "the great disease" and the "sacred disease," and it was so named. At this time, many religious beliefs were prevalent concerning epilepsy such as: 1) a deity had sent it, 2) a demon had entered the body of the afflicted one, 3) it occurred because of a sin against Selene, the moon goddess, and 4) it was an infliction or possession by a higher power as a punishment for sin and thus the cure must be divine or supernatural.

Among the cures or treatments listed during these times were drinking warm blood from wounds

Dr. Baldwin is Director of Seizure Unit and Assistant Professor of Pediatrics, University of Maryland Medical School, Baltimore, Maryland; and Consultant in Epilepsy, Maryland State Health Department, Rosewood State Training School, and Silver Cross Home for Epileptic Females.

of fallen gladiators or smearing human blood over the mouth of an unconscious epileptic. Powdered human bones, especially the first vertebra, the atlas, were also considered very healing. Still another superstitious remedy was fixing a nail in the spot where an individual had his first seizure, thus nailing down the evil spirit. Collecting mistletoe at the oak at the time of the new moon, without an iron instrument, or gathering coral, peony, or strychnos root at the waning of the moon and making an amulet to hang from the neck were also common means of treatment. Patients were to avoid baths, certain foods such as eel, red mullet, blacktail, goat, deer, suckling pig, mint, garlic, and onions and, finally, to avoid the wearing of black clothing and the use of goat skins.

Fifth Century B.C.[2]

Starting in the fifth century B.C., the Greek term "epilepsy," meaning "to seize" or "to attack," replaced the term "sacred disease." It was claimed that epilepsy was caused by three factors; namely, 1) "anatomic and physiologic"—the veins are the breathing organs and carry air cooling the brain; if the cool air does not circulate through the brain, then seizures occur; 2) hereditary—a germ of the disease occurs early in the fetus so that if the fetus is not purified at this time, the child will have epilepsy; and 3) physiologic—excess phlegm from the brain rushes into the other body vessels causing convulsion, or the cold phlegm may cause death by congealing the blood. Changes of the wind and temperature and, in children, fright and fear, provoke seizures. The wind and temperature supposedly change the consistency of the brain.

Treatment at this time included definite diets with vinegar and honey being a specific drink, daily baths, purgatives, walks, and regulated sleep. Surgical intervention with trephines as well as arteriotomy, cutting of arteries before and behind the ears, were used in resistant cases. Drugs were used to cause heating and drying of the cold moist phlegm causing the seizures. Some of these were peony, balsam tree fruit, figs, mustard, hare's rennet, stomach and blood of the weasel, lichen of horses, and so forth.

Middle Ages: The Falling Sickness

Through this period, epilepsy became associated with periods of ecstasies, raptures, prophetic trances, and possession. It became known as the disease of the moon and thus was referred to as lunacy; other disorders were intermixed with it. One Greek historian, Manetho, considers two different types of lunar influence: the "moon with the sun in the western sign" causes fainting, raging madness, and so forth; while the full moon with the planet Saturn causes complete lunacy or being seized by the gods. Later St. Hildegard describes two types of epilepsy both of which cause falling down, one type being associated with wrath and the other with instability of character and easy morals. Dante, 200 years later, describes "the falling evil." Still later it became known as "gutta cadina" or "gutta caduca" meaning falling gout and was thought to be caused by a flux or catarrh. At about the same time, St. John was regarded as the patron saint of epileptics and St. Valentine of the dancing mania. However, the two conditions were frequently indistinguishable and conditions causing a falling such as apoplectic stroke were included in discussions of epilepsy.

Treatment was along two lines, magic and religious: the old remedies were used but an attempt was made to explain their use along rational lines; while among religious people, prayer and fasting were practiced as instructed by Jesus when He expelled the demon from the epileptic boy.

During the latter part of the Middle Ages, epilepsy became known as an infection believed to be caused by a terrible breath which, when it came in contact with a healthy individual, would cause epilepsy. This belief goes back very far into the past when it was common practice to spit on an epileptic and to refuse to eat or drink with him. But in the fourteenth century, laws were passed that epileptics as well as other infected sufferers could not sell food or drink and should be expelled from the city.

In general, three types of epilepsy were explained during the Middle Ages. The work of Galen recognized localization in his terms of epilepsy (from the brain), analepsy (from the stomach), and catalepsy (from other body areas). Two possible mechanisms were proposed by Galen. Idiopathic epilepsy was believed to result from obstruction of the ventricles of the brain and of the roots of the nerves by cold and vicious humors, while the other two types were caused by irritation of an ascending pneumatic substance or quality. Platearius distinguished two different types: The first was the grand mal or major, arising from complete obstruction of the ventricular system and causing an individual to fall, with distortion of the face and mouth, trembling of the entire body, clenching of the teeth, frothing at the mouth, and incontinence of urine and feces; the second type was the petit mal, or minor, resulting from an incomplete obstruction of the ventricular system which would cause the patient to faint but not necessarily to fall down.

Renaissance[2]

These were the days of witchcraft and only a few physicians stressed the natural character of epilepsy as first explained by Hippocrates. This was a period of regression. It was a period of possession, not only by the devil, but also by communion with angels or God who told men what to do. It was in this manner that such individuals as Mohammed came to be regarded as prophets. Epilepsy was now associated with genius and was thought to indicate great gifts. At this time it was revealed that Hercules, Socrates, Julius Caesar, the Emperor Charles V, and the poet Torquato Tasso had suffered from epilepsy.

In spite of this, epilepsy was looked on as a hateful disease. Beggars and robbers simulated the condition to enhance their work and also to evade punishment. It was very difficult to detect their duplicity, but at this time, it was noted that the pupils of those feigning a seizure would dilate when the curtains of the bed were closed and contract when they were opened. This is still a reliable guide in detecting these cases. Treatment still ranged from mistletoe to the blood and bones of a decapitated man. Epilepsy at this time was also associated with head trauma, brain abscesses, syphilis, smallpox, measles, and fever in children.

Period of Enlightenment: Seventeenth Century[2]

Sylvius and Willis both denounced the older, accepted causes of epilepsy. Sylvius proposed the theory that animal spirits in the brain change by some chemical means which causes them to become violently disturbed. Willis proposed an explosion of the spirits, a mixture of nitrosulfurous particles, in the muscle fibers. Such things as intestinal worms and drugs, he felt, irritate and cause the explosions. Baglivi proposed the elastic equilibrium theory that nervous fluid circulating throughout the body changes the tonus of the muscles. The dura mater acts as the heart by propelling the nervous fluid through the nerves throughout the body, thus regulating the body movements. When certain abnormal agents enter this nervous fluid, its course is irregular or disturbed, resulting in a nervous disease such as epilepsy.

The theory of animism was proposed by Stahl. The epileptic attack was considered a purposeful and essentially beneficial reaction of the soul, not arising as a result of something from the outside.

Toward the end of the seventeenth century, heredity became a recognized cause of epilepsy; emotional shock in the pregnant mother resulting in epilepsy in the child was a second causative factor proposed by Boerhaave. Many changes took place during this century. The previous beliefs were discarded as being irrational and postulating the impossible. The cosmic phenomena of the moon were now accepted as primary causes, and illustrations were given of individuals having seizures at certain phases of the moon. Newton's laws of physics, especially those of gravitation and those related to the tides, were considered. Tissot emphasized his theory that sexual excesses as well as excessive continence would cause epilepsy even in the strongest man. Tissot and Bacon became advocates of the idea of masturbation as a cause, even to the point of advising castration. Gowers, however, felt that circumcision alone was usually successful.

During the eighteenth century, trephining and cauterization became extinct. The older treatments of peony, blood, mistletoe, and so forth, though explained as specific drugs along with some newly described chemicals such as zinc oxide, were finally discontinued. A patient or suspected patient was kept in the most favorable conditions, under a rigidly healthful schedule and shielded from excitement. The longer a patient was free from seizures, it was believed, the sooner the "predisponent" would diminish.

Pathology began to gain recognition when autopsies were performed more frequently, and gradually the predisposition theory became more widely accepted. Predisposition could be inherited or acquired, with constitutional factors or emotions playing a part. It was during this era that Boerhaave accused the midwives of causing epilepsy by damaging the infant's head. Many other suspected causes were found at this time: tumors, abscesses, excess fluid such as edema or hemorrhage, diseased livers, and so forth. Tissot divided the epilepsies into idiopathic and sympathetic, the former also being referred to as essential epilepsy.

Nineteenth Century[2]

The outstanding event of the early part of this century was the separation of epileptics in the hospitals from the "insane," although this was done mainly to protect the "insane" from the epileptic influence. This separation made it possible to study the epileptics better. The terms, grand mal or fully developed fit, absence or passing mental confusion, and petit mal or poorly described remaining spells, were finally accepted. In 1833, the term "reflex epilepsy," initiated by Hall, came to be recognized. Increasing animal research during this era demonstrated that changes in blood supply could cause

epilepsy, with convulsions proceeding from the excitable or motor cortex areas of the brain and the incomplete attack from the brain proper. It was also found that chemicals and changes in nutritive substances could change the "molecular alterations" of the brain and cause convulsions. All these were considered to cause changes in the irritability of the brain, not morphologic changes. The blood of epileptics was tested for carbonate of ammonia but no increase was found.

Treatment during this time included various preparations of silver salts, turpentine, indigo, belladonna, and chloroform. Cauterization and trephining were resumed. It was also noted that surgical procedures frequently induced long periods of freedom from seizures. In 1857, Sieveking was the first to use bromide of potassium successfully for the repression of seizures.

Bravois first described a hemiplegic type of epilepsy, with Bright shortly thereafter describing changes in the cortex of individuals having epilepsy. Todd brought back the humoral theory but believed that the blood carried material which would cause the brain to act in an "explosive manner." Carpenter, at this time, proposed that the thalamus is the seat of conscious sensibility through which all impulses are transmitted.

In 1859, John Hughlings Jackson gave a complete description of what is now termed Jacksonian epilepsy or "Jacksonian March" and stated that it was caused by localized injuries of the convolutions of the brain. He proposed that, "Epilepsy is the name for occasional, sudden, excessive, rapid and local discharges of the 'grey matter'." He considered sneezing and migraine as part of the epilepsies.

Electro-encephalography[3]

The history of electro-encephalography dates back to 1874, when Caton discovered electrical fluctuations in animal brains and became convinced that these were related to the functions of the brain. In 1890, Beck reported large changes in fluctuation when the eyes of animals were illuminated and he also reported that there were smaller fluctuations not related to pulse or respiration. A sealed paper by Fleischl von Marxan was opened and read; this was dated 1883 and dealt with the electrical activity of the cortex. In 1892, Gotch and Horsley reported on characteristic electrical responses of special areas to special stimulation such as the visual area responding to illumination of the eyes. Hans Berger, the father of electro-encephalography, was the first to record the electrical fluctuations of the human brain and to ascribe them to discharges from the neurons. He also showed that, normally, there are a certain number of fluctuations per second of a certain voltage. In 1933, Fischer first noted the high-voltage waves of animals during convulsions. In 1935, this was put to practical use by Lennox, Gibbs, and Davis. Then, in 1936, Grey-Walter showed how brain tumors could be localized.

Physiology[3]

A physical property of all living tissue is the production of electricity. This is altered by the difference between electrical charges of the inside or intracellular fluid and the outside or extracellular fluid. The metabolism of oxygen and glucose within the cell creates the electrical energy and any disturbance of this metabolism causes a disturbance in the production of the electricity. The carbon dioxide content of the environment of the cells must be kept constant, and this is brought about by changes in the respiratory rate, vasoconstriction, and vasodilation. In 1938, Lennox, Gibbs, and Gibbs found that a decrease in oxygen causes a decrease in the electrical activity of the cortex. In 1940, Gibbs, Williams, and Gibbs found that with an increase in oxygen, the electrical activity of the cortex increases. In the former condition, as the oxygen decreases below 30 percent in the blood, the electrical activity decreases gradually until there is no evidence of any; then death occurs. In the latter condition, the electrical activity increases, causing convulsions with over four atmospheres of oxygen, then postictal slowing, flattening, and death.

A decrease of 40 mg. percent of the glucose in the venous blood was found by Lennox, Gibbs, and Gibbs in 1938 (repeated by Gibbs, Williams, and Gibbs in 1940) to cause a slowing which if continued results in death. In 1940, Gibbs, Williams, and Gibbs found that an increase of glucose over 300 mg. percent in the venous blood caused an increase in the electrical activity with irreversible changes finally leading to the same outcome.

In more recent work, Braganca, Faulkner, and Quastil[4] have followed the work of Krebs in demonstrating that ammonium ions decrease the rate of synthesis of bound acetylcholine in rat brain slices *in vitro*. This is thought to be brought about by the increase in ammonium ions producing an increase in the formation of glutamine, thus decreasing the available adenosine triphosphate and decreasing the synthesis of acetylcholine.

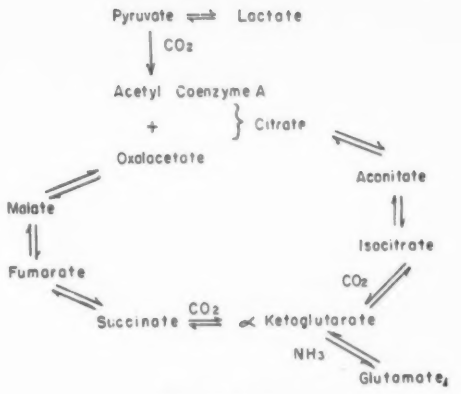
This work has been continued by others, and Tower's[5] most recent *in vitro* work done on epileptogenic human brain slices has demonstrated three metabolic defects. With acetylcholine, the

epileptogenic slices showed no increase in the bound acetylcholine, but when L-glutamine, L-asparagine, or adenosine triphosphate is added, a reversal of the levels occurs as compared with normal brain slices *in vitro*. Glutamic acid as such has no effect when added to the metabolic solution.

The second defect is in the metabolism of the glutamic acid and glutamine. In the epileptogenic slices, the glutamine level is normal at the end of the incubation period, but, by comparison, the glutamic acid level is only one-half the level of that of the nonepileptogenic slices. The addition of glutamic acid had no effect, but the addition of L-asparagine, adenosine triphosphate, or α-keto-glutarate restored the proper level of glutamic acid.

The third defect is in the potassium and sodium changes. The epileptogenic slices had a low potassium level and a high sodium level in contrast to the nonepileptogenic slices. With the epileptogenic slices, the addition of L-asparagine reversed the potassium and sodium levels to normal.

In applying this to the Krebs cycle, there is an internal or "metabolic" loss since the decreased amounts of the glutamic acid in the epileptogenic slices do not show up as an increase in the metabolic incubation medium. Tower proposes that epileptogenic brain tissue has a deficit in available energy, the cause of which is unknown. A study of the Krebs cycle of glucose breakdown to carbon dioxide and water shows the interplay of all these substances. Through a phosphorylation breakdown process of glucose to pyruvate, the pyruvate is used by the central nervous tissues to produce the energy for the metabolic work, with carbon dioxide regulating the tissue pH, and adenosine triphosphate and creatine phosphate, the high-energy phosphates, for the energy. Three carbohydrate-amino acid interchanges are associated with the Krebs cycle through transamination to ammonia metabolism.



KREBS CYCLE

These are pyruvate with α-alanine, oxaloacetate with aspartic acid, and α-keto-glutarate with glutamic acid (Fig.).

Recent work has shown the place of pyridoxine in the breakdown of glutamine. Pyridoxal phosphate, the coenzyme derived from pyridoxine, acts as a catalyst, and a tissue deficit of this substance causes convulsions as demonstrated by feeding infants a revised formula deficient in pyridoxine.[6, 7] Hydrazides such as isonicotinic acid hydrazide compete with pyridoxine, thus inhibiting the enzyme reaction.[8]

Epileptic patients treated with L-asparagine have been found by Bessman [9] to have low L-asparagine blood levels, but glutamine levels were found to be double the original pretreatment and pretolerance test levels. Ammonia levels were also found to have increased. It is thus assumed that some L-asparagine is broken down forming ammonia and some is resynthesized to glutamine.

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Group Therapy with Delinquent Adolescent Girls*

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On May 22, 1951, group therapy was started at the Montrose School for Girls with three girls: J., B., and G.; the author; the psychiatrist at the school; and some trepidation. It has continued without interruption since this time, with some sixty girls included in the program with the same psychiatrist, about the same number in group therapy with the psychologist, and with confidence now instead of trepidation. Although the exact results are difficult to evaluate, the program has been received enthusiastically by the staff at the school, administrative and social service; teachers, academic and vocational; and matrons, since they see the girls respond with less tension, fewer explosive outbursts, and increased ability to think for themselves and meet frustrations.

The first group was started because J., a 15 year old, was finding it very difficult to express herself in individual therapy. She was obviously tied up in knots emotionally, and was asked whether she felt she could talk about her problems more easily with one or two other girls who might have similar problems. She agreed that she would like to try this. The next week, two other girls, B., a talkative, but upset girl who had bizarre dream-like experiences which were somewhat schizophrenic, and G., a belligerent rebellious girl of 14, agreed to try it, and the first session was held. B. led the group in a discussion of running away in which all had been involved at one time or another, J. most recently. J. remarked "so that's why I ran away, I was insecure," but G. said, "That's not why I ran away, it was because my father was going to beat me." G. came out with several explosive comments criticizing the rules of the school and individuals. Her explosiveness startled the others. They also were surprised when she was not corrected for this. They agreed to return and the next week another girl, C., aged 15, was added to the group. She was a persistent runaway, who always tried to appear to conform and agree with those in authority and who said she had no problems. This group continued through 49 weekly sessions, missing a few at holiday time, until July 29, 1952. During this time, six other girls were added for varying lengths of time when some were discharged or dropped out for other reasons. G. and C. were still present at the last meeting, although G. had dropped out for five sessions during the winter of 1952, and C. had been out on parole for about three months, returning to the school because of running away again. B. attended only five sessions since she was about ready for discharge from the school when the group started. One other girl, L., came only seven times since she also was almost ready to leave the school when she joined the group. The others attended 14 to 24 sessions each.

The topics discussed ranged from the rules of the school, minor upsets of individual girls, feelings about sex, fears of being called "queers," crushes, boy friends, and girls who had been so upset that they had had to be transferred to a psychiatric hospital.

During the different sessions, different girls would be the dominant members. After B. left, J., who had been so quiet, became more talkative and was the leader of the group for awhile. C. gradually changed from being an echo of what she felt

* This study is a follow-up of the cases reported in the article, "Psychotic or Delinquent?" that appeared in the November 1952 JOURNAL.

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was the right thing to say to being an individual able to express her real thoughts. G. went through phases of explosive outbursts to serious and thoughtful discussions of her problems and those of the others. She was often the butt of others' criticisms and once or twice was near tears because of this. Each time, one of the other girls would help her over the hurdle with a little reassurance. The other girls who joined the group were An., an explosive girl who was in constant conflict with her "mother," an opinionated maiden lady who had adopted her; Ch., an unstable, almost hysterical girl, who had spent some time in a state hospital before admission because of fainting spells; Be., a stubborn, resentful girl, whose parents had practically thrown her out; A., a silent girl, who seemed stupid, although she had adequate intelligence, and who was stubborn and showed tantrum-like behavior; Ja., an orphan, who had been brought up in an institution and resented all discipline; and L., a stubborn, hot-tempered girl, with expansive ideas. Ch. and Be. were accused of having a homosexual affair and many sessions were devoted to discussions about this. All of these girls showed improvement in their behavior and attitude while in the school. G. was the least stable, sometimes showing a great deal of improvement and at other times reverting to her old explosive behavior.

L., Ja., and A. have not been heard of since being discharged. C. soon ran away again. B. married a few months after leaving school and apparently has gotten along well. J. had a job and was doing well on the last report. G. disappeared after getting into some serious trouble soon after leaving school. An. did well for awhile, then married and got into trouble with the police. Ch. has kept in touch with the school, visiting fairly frequently, bringing her fiance with her, and she has recently married. Be. had a somewhat stormy career in the WAC, and is now married happily. She has kept in touch with several staff members of the school ever since her discharge.

Of subsequent groups treated by the psychiatrist, which are the only ones considered in this report, two have been for girls selected as for the first group because of their aggressiveness, inability to express themselves, and inability to get along with others. These groups had open membership, new members being added as old ones have dropped out. One of these groups ran from April 29, 1952, to April 28, 1953, and the other, still in progress, started September 13, 1955. The other groups have been for special categories. Two have been for girls returned to the school for the second or third time, regardless of their personality problems or age. Some of these had been in treatment groups before and some had had individual treatment on their previous admissions. C. was in one of these groups on her third admission to the school. Another group was a limited membership group, with six of the younger girls who had not been serious behavior problems in the school, but who were a source of constant irritation in their classes and dormitories. Another group consisted of two rigid, difficult girls with whom it would have been unwise to mix others. One group was made up of runaways, four of whom had run away together from the school. Since some of these girls were able to leave the group to go home or because they were doing so well, other members were added, who were not necessarily runaways. The first group of return girls started with four girls, Lo., M., C. (who had been in the first group), and H., on September 2, 1952, and continued to September 1, 1953, by which time all the original members had been replaced, except H., who had been discharged and returned again to the school. Lo. was a talkative, giggling girl of 15, who chattered endlessly and who seemed unable to face the very real problems she had. She attended 25 sessions. Toward the end of this time, she was not monopolizing the group time and was able to discuss, with some degree of reality, her plans for the future. However, under the stress of getting ready to leave, she was chattering as disconnectedly as ever during the last two sessions. She apparently has done well since her discharge; the last report was received several months after she left. M. was a pretty girl, almost 18, who talked well and reasonably. She attended only seven sessions and was discharged to a job which she was very anxious to have, and for which she was full of high resolutions of making good. She ran away from the job in two days. She was returned to the school for a short time and has not been heard of since then. C. attended seven sessions. She was talking smoothly as usual. She was discharged and has not been heard of again. At least she has not gotten into trouble serious enough to have been reported. H., aged 17, was a rigid, aloof girl, who denied the existence of any facts she did not like. She had earned her license to be a beautician and made it quite clear that she felt superior to any girls in the school. The others in the group came back at her so vehemently when she talked down to them that she dropped out of the group for awhile, but later asked voluntarily to return. This time she seemed to make a real effort to understand herself and help others with their problems in a more realistic way. On leaving the school, she lost several jobs in beauty shops

very quickly and has not been heard of since. The other eight girls, who were members of this group as it progressed, varied in age, intelligence, and temperament. Discussions ranged over the usual topics, sex being one of those most often discussed. All except S., who dropped out after three meetings, seemed to feel that the sessions, with the opportunities to talk freely of whatever was most in their minds, had helped them in other situations. One girl, I. M., seldom opened her mouth, but insisted she wanted to continue and her adjustment in the school improved. As in the other groups, the leadership would shift; one girl and her ideas dominated for a few weeks and then another. They were amazingly tolerant of each other's opinions usually, but one girl stayed away for three weeks because of a quarrel with one of the other members which had occurred outside of the group.

These groups and the group of runaways were managed in the same way. A group would be formed, and at the beginning, or when a new member was added, an explanation of the reason for this type of treatment would be offered. This explanation was simply that all of the girls had problems in getting along with themselves or others and that meeting and discussing such problems had helped others and might help them. This had always been discussed with each individually before she came to the first meeting. From this point on, the discussion was open. If no one said anything, I would ask how things were going, sometimes asking a particular girl about a problem she had talked about the week before, sometimes just asking the group. Often there would be one or two side conversations going on between two girls. Sometimes one of them would bring a book and read or write. Sometimes such activities were ignored; occasionally the girls would be asked to be more polite. Attempts to steer the discussion to topics pertinent to recent events usually failed. In one group, Be. would always come in shortly and say "I don't want to change the subject, but . . ." and start off on some other topic. Sometimes I would be asked direct questions. If they were for information, I would answer. If for an opinion, I would suggest that someone else offer her opinion first, and then I would try to sum up the different ideas. There were surprisingly few heated arguments, but occasionally someone would be pushed too far and would need a little support. Usually when the girls saw that someone felt hurt, someone else would try to offer reassurance.

Two groups were handled in a somewhat different manner, the group of two and the limited membership group of six who were irritating and pesky. The group of two (a third member did come to one session) met eleven times from February 16, 1954, to June 22, 1954. The two were started as a nucleus for a group, but their reaction was so intense it was felt wiser to keep them alone. At the first meeting when nothing was said, I suggested they talk about mothers, because both of them had problems in getting along with their mothers. This topic soon bogged down. Bv. then began telling Sh. about how she used to be mad at everything as Sh. was and now she no longer felt that way. Sh. seemed to take this in and think about it. At the next meeting, Sh. was flip and talkative. Bv. was bland and smooth. She would willingly accept new members. Sh. insisted that she wanted just the two of them to continue. At the third meeting, Bv. was smiling and pleasant, Sh. complained about everything. However she smiled when Bv. reminded her that she had said she wanted to come to the meeting and that she was glad this was the day for it. At the end of the hour, Bv. was asked if she minded coming if Sh. did nothing but fuss at everything. She said "no" that it was the way she used to feel and that Sh. often said what she had been thinking. The next meeting started off slowly; neither girl would talk or do more than answer yes or no to my questions, an attempt to get them started. Finally it was suggested that I turn my back and that they would talk as if they were alone. They responded to this by beginning to talk in a facetious way, but soon got into real discussions about how they felt about another girl's actions, about their boy friends and "drapes" that they knew, and the fights that they had been in. It was surprising how much they told on and about themselves. When I turned around to join them after about fifteen minutes, they discussed with me in a friendly way some of the things they had said. The next four meetings were relaxed and easy with both of the girls discussing problems of getting along at school and with their families. They agreed to having a new member added the next week. However, when M. L. came in, Sh. immediately began picking on her, criticizing her and her boy friends. M. L. said very little. Bv. talked about her plans for leaving the school. M. L. refused to come the next week and I did not urge her because I felt the situation was rather difficult. Neither Bv. nor Sh. commented about her absence. The meeting was pleasant and both of the girls talked about their plans for leaving. Since Bv. was discharged the following week and Sh. was getting along better in the cottage, she was put on individual therapy with fewer treatment hours until the time of her discharge. While both of the girls did benefit from

their therapy experience while at school, neither of them did well on discharge. Bv. ran away from home and Sh. has had numerous jobs, always losing them because of her disposition, and finally she was sent to the woman's prison after having been in a fight. Both girls needed much more treatment than could be given them in a school.

The other different and difficult group was that of six girls, who were not considered serious behavior problems, but who were irritating nuisances wherever they were placed in the school. They all came to 15 sessions. With this group, attendance was compulsory after the first meeting. The first meeting started off with much talk, criticism of each other, and interruptions. One girl was accused of stealing and lying. Another was criticized for interrupting. Another was told she had a temper. At the next meeting tempers flared. N. and Sh. tried to discuss things, the others argued and criticized. V. kept saying she was bored and wanted to leave. Finally Li. suggested a guessing game. Then they decided to do charades. Teams of two tried them. K. was not very successful in hers and decided to sit under the desk. When they left, Sh. politely said that she hoped there would be more discussion the next time. The third session started more pleasantly. V. complained of a headache and kept complaining of it for about half of the time and then apparently forgot it. They asked to do charades again, but no one would pay much attention. Li. was playful. She had brought a baton with her and kept hitting Fl. with it until it was taken away. N. and K. sat in a window, hiding behind a curtain for part of the time. N. tried to get them to discuss problems of responsibility and the fact that they all come from broken homes. Fl. denied this. They picked on Fl. for trying to get sympathy. N. mentioned her father's death. No sympathy was expressed from any of the others. Sh. seemed to be quite aloof. Everyone joined in in correcting Fl. The next two meetings were much the same. On September 1, V. sat in the hall for part of the time and then decided to come in and was pleasant and took part. As usual, Fl. was the butt of teasing and correction. The next week they all came in, insisting that they were not going to come any more. V. again said that she wasn't going to come in. When she was told she could sit in the hall, she came in, and was pleasant. To ease the situation, playacting was suggested. Each pair of girls was to act out a situation. I suggested that they act out a conversation between a mother and a first grade child coming home from a first day of school, since this happened to be the first day of their school. All of them took part and seemed to be interested. They immediately forgot that I had said a first grade child and acted out a teenager, such as they. They discussed each others' productions and seemed quite interested in it. This form of psychodrama was continued for three meetings with the plots always concerning rebellious girls and the way they were handled by their mothers and in one case by the teachers and the court. During one of these plays, when Sh. was the mother and the problem was stealing, she suddenly said, "I don't feel like acting out," and went over and sat in the window, refusing to take any further part. As they began to run out of ideas for psychodrama, crayons and poster paper were brought out for them to draw, as they had requested. There was a great deal of squabbling on places to work, how to draw, and what to draw. It was interesting that Li., who was always full of directions, could not produce any ideas of her own and finally copied N.'s. Fl. always drew exactly the same thing; a house with a fence around it and the sun coming up in the corner. Along with the drawing, there was always a great deal of conversation, criticism of each other, the school, the doctor, and the group. Several times, one girl would refuse to come in or one would have to be sent out in the hall to sit for awhile until things calmed down. Doll house furniture and dolls were brought out for awhile for them. Li., K., and Fl. were delighted, but the others felt a little bit superior to playing with such toys. K. and Li. really acted out things with them, but were a little shy about letting anyone hear their plots.

On December 15, they were told that the next meeting would be the last one. No one made any comment at first, but during the session, Li. said that she didn't want to stop and K. also said that she wanted to continue. N. said that she was glad not to have to come any more. The last meeting on December 22 was quiet, with more discussion and more tolerance of each other. They tried a little drawing, tried a few charades, and seemed somewhat at a loss for activity. The only comment on the fact it was the last meeting was made by V., who said, "Now that I don't mind coming, you are stopping it." All of the girls had improved in their attitude and behavior in the school. Four of them, N., Li., V., and K., have done well since discharge. Sh. was transferred to the state hospital when she became very depressed at facing her state board examination for a beautician and the problem of deciding where to go when she left the school. She has had a second hospital admission, but is doing well now. Fl. failed in a foster home placement and is in another institution.

Discussion

This form of treatment has been discussed and described for the past 15 to 20 years. Its use with delinquents has been reported. However, there are very few reports about girls in institutions. Although McCorkle[1] in 1953 reported 35 percent of correctional institutions in the United States were using group therapy, I was able to find no reports of continued treatment within such institutions. In 1944, Gabriel[2] reported on a group of adolescent girls and pointed out the fact that the treatment in group therapy takes place in the group situation and in the interaction of the girls. Solomon and Axelrod[3] in 1944 reported the growth inability to organize social activities in a group of shy adolescents in group therapy where activities and parties were used as props. In 1951, Schulman[4] concluded that at least six sessions are needed for improvement and that the greater the number of sessions, the greater the chance of success. In a report of his work, McCormick[5] emphasized the importance of development of group feeling, the meaning of the group to the patient, and the understanding of the dynamics of therapy. In my work, I did not explain the dynamics to the girls and this paper does not allow room for discussion of dynamics. Mullan,[6] who has done a great deal of work with adolescents, stresses the need for a goal, the importance of using the patient's own metaphor, the problem of differentiating the therapists' and patients' roles in the group, and the gradual development of the feeling of importance of the group in the patient's experience. All of these points are important, but in each group the emphasis has to be varied owing to the personality problems of the individuals involved.

The groups selected on the basis of the girls' needing treatment because of their attitudes and personalities (this includes the first group and two of the others) showed little difference from those selected because of their being returnees or runaways who did not necessarily show obvious personality problems. The two most difficult and different groups were the ones with the two members with deep character disturbances and the one of the girls who were just troublesome.

This latter group, described in some detail, showed in sharp relief many of the same problems that occurred in others. They vented their hostility more openly, but gradually, through the use of more props, did become a cohesive group with tolerance for themselves and for each other. All of the groups went through a period of trying out the more insecure members, either giggling or jabbering or remaining aloof. As they became acquainted with the fact that their behavior and attitude would not bring out resentment in the therapist, their need to assert themselves became less and they could let themselves relax and think things through. Each group came to have a feeling for its fellow members. No request to keep the content of these meetings to themselves was made, but the girls soon talked freely and trusted each other with serious problems and, as far as I know, their discussions of personal things were not taken outside the group. As the time to cease the sessions came, tension was obviously less and the topics became less charged with emotion.

Although there are similarities, I found each group required a slightly different attitude on the part of the therapist. The younger group needed more props, such as the use of acting out, drawing, being allowed to sit on the floor or under the desk. They also needed more firmness in insistence on attendance, ruling out some aggressive behavior (actually stopping fights on two occasions), and more direction of activities if only to give them something to resist. The older groups were sometimes too silent and needed help in expressing themselves, or again too noisy and apt to use the session as a place for gossip. How much of this to allow is a problem which has to be met with each individual group. Each group tries, at least once, to trick the therapist into agreeing with some statement of criticism, which agreement they can use later on in confusing her. When they have learned that they may express all the criticism they want to about anyone or anything, but that listening to it is not agreeing with it, they have made a good start on becoming more objective. Usually, one of the other group members would jump to the defense of the right attitude and relieve the therapist of the need for seeming to correct them. Some girls are apt to be left out or shoved aside, and the therapist has to be able to give those girls some assurance without letting them have the unenvied position of being teacher's pet. There usually is one girl in each group who plays for attention and tries to be the favorite. Sometimes the therapist can be fooled into letting her dominate, and this must be avoided.

These are some of the problems for the therapist, but each group will provide a few problems that are unique in the handling of its situation.

The success of the program at Montrose is shown in the enthusiasm of the staff for it. From the dormitory matrons, to the administrative staff, all report improvement in the girls in group therapy and all refer girls for treatment. The girls also are

showing less and less resistance to therapy.

While their follow-up records are quite inadequate because when they are discharged from the school they are turned over to other agencies, the ones that we have been able to check on have, in the majority of instances, been doing pretty well. Those that we know have gotten into trouble have been the ones whose problems were such that we have felt they needed much more treatment than they were able to have in a school setting. The program is continuing and expanding, and as it does, the therapists as well as the girls will continue to learn and to profit from the experience it offers.

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Significance of Nausea and Vomiting

Grace G. Jones, M.D., F.A.C.S.

NAUSEA AND VOMITING, with or without abdominal pain, present a symptom complex observed almost daily in the practice of medicine and surgery. Patients with this complaint are seen by the internist and the neurosurgeon, by the pediatrician and the orthopedist, by the obstetrician and the otolaryngologist, by the dermatologist and the general surgeon. The general practitioner and the general surgeon act as the clearing officers, however, for the majority of these individuals.

Such symptoms should not only be regarded seriously, but also, in many instances, should be diagnosed carefully and with as much dispatch as possible, to avoid costly prolonged illness or disastrous end results.

Because of the seriousness of this problem, it seems practical, and it is hoped it will prove helpful, to give consideration to the many disease entities and conditions causing this unpleasant manifestation of physical upset. An evalution is particularly necessary because today there is a tendency to narrow practice down not only into specialties but also into the specialty within the specialty, and because there is an ever increasing array of drugs and therapeutic aids available for specific treatment. Such is the trend of modern medicine!

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Vomiting may be caused by:

1. Some direct insult to the stomach. a) This may be of a temporary nature, of no pathologic significance, which disappears after the stomach is emptied. This is illustrated aptly by juvenile overloading of the stomach with such delicacies as cheese crackers, peanuts, soft drinks, hot dogs, and hamburgers, en masse. b) On the other hand, the trouble may be intrinsic, and of a definite pathologic nature, such as a pyloric obstruction, where vomiting acts not as a cure, but as a safety mechanism, for the organ.
2. Pathologic condition elsewhere in the body, and not involving the stomach or any part of the gastrointestinal tract. A lesion in the brain illustrates this type. Here nausea and vomiting provide a warning signal.
3. Specific states, the cause of the vomiting sometimes undetermined. De Lee[1] believes that this applies to vomiting during the first trimester of pregnancy (and not to hyperemesis gravidarum).

To recapitulate, where nausea and vomiting occur, it may be possible to designate the stomach itself as the cause; or, and this probability must never be overlooked, the stomach may be merely a hollow viscus which holds secretions propelled there by reverse peristalsis from an obstructed portion of the gastrointestinal tract; or yet another possibility, it may be the organ whose mucosa responds to stimulation as a result of some far removed focus of infection or injury.

Before we discuss further the changes involved in nausea and vomiting, and those associated states causing these symptoms, it is wise to review briefly the salient factors about the organ involved in a mechanism it may or may not initiate. The stomach is the longest and the most dilated portion of the digestive tract. Its normal capacity is approximately one quart, but it may be greatly distended to hold considerably more. Its distended state makes the patient quite uncomfortable, and when it exerts pressure on the liver, gallbladder, diaphragm or on an also distended duodenum, a cycle of "vicious vomiting" may begin.

The embryologic development is important in our consideration. In the fourth week, the stomach, as an outpouching of the foregut, lies between the esophagus and the pharynx. The yolk sac and the liver bud are in a posterior position. During this time, therefore, the stomach lies in the neck, and near the vagal fibers as they come from the central nervous system. In the sixth or seventh week, the stomach is forced downward into the lower thorax, with its long axis in the median plane and the greater curvature in a dorsal direction. Later, through the process of two combined axial rotations, the stomach is brought into the position it assumes in extra-uterine life. The first rotation (longitudinal axis), passing through an arc of 90 degrees, swings the primitive left gastric surface to a forward position and the primitive lesser curvature and mesogastrium to the right. As a result of the second rotation (transverse axis), the pylorus is brought to the right, leaving the cardiac end of the stomach lying to the left.[2] Failure in some measure of rotation may produce the "upside down" stomach, an abnormality which may occur in varying degrees. The author has had such a case. Operation was successful.

The adult stomach has four coats: 1) serous or outer, 2) muscular, of which there are three sets of fibers, longitudinal, circular, and oblique, 3) areolar, and 4) mucosa or inner layer lined by acid bearing and mucous glands. The parasympathetic and the sympathetic nerves supply the organ. The parasympathetic fibers come from the right and left vagus nerves, which in turn originate in the medulla, a fact important to remember in brain injury or in brain lesions. The right vagus runs on the posterior surface, and the left vagus assumes an anterior position on the stomach. The sympathetic nerve supply comes from the celiac or solar plexus, from in front of the upper abdominal aorta. Fibers sent to the stomach wall terminate in the myenteric plexus (between the muscles) and in the submucous plexus, which contains both sympathetic and parasympathetic fibers.

Changes which cause nausea or vomiting, or both, are many and varied, and may be classified on the basis of physiologic change or pathologic change. On one hand, one may see normal individuals who have a temporarily altered physiologic state, which causes nausea and vomiting. This state may quickly return to normal without treatment. On the other hand, one may see acutely ill individuals who have nausea and vomiting because of a pathologic condition and who cannot return to normal until this condition is eradicated.

The Altered Physiologic State. The passenger who becomes ill on a aeroplane with "flight sickness" illustrates what is meant by the altered physiologic state of a normal individual. The patient feels well before flight time, becomes ill at high altitude or with the motion of the plane, but on disembarking returns to a normal state. Boothby, Luft, and Benson,[3] through a series of experiments on human subjects, have demonstrated the effectiveness of removing gaseous nitrogen from the body tissues, and have concurrently prevented decompression sickness. This is done simply by having the subject breathe pure oxygen before flying, or breathe it from the ground up to high altitude. Owing to the advance in aviation medicine as a result of civilian and military travel, as well as successful rocket and jet aircraft travel, much is being done along these lines of investigation. Even special departments for space problems have been created at the United States Air Force School of Aviation Medicine. The now well known tests aboard the transport ships from New York to Bremerhaven were part of a co-operative study between the armed forces seeking to find an effective means to combat sea sickness, air sickness, and motion sickness in general. It is well to point out that the dizziness, nausea, and vomiting of motion sickness is in contrast to the vertigo, nausea and tinnitus, and frequently deafness found in patients with Menière's disease.

The Pathologic State. Nausea and vomiting occur whenever the normal functioning of the vagus and the respiratory centers in the medulla are disturbed. This leads one to conclude that if we could

speak of a "vomiting center" it would be located in the same area as these two centers. Many afferent impulses from various parts of the body act on the medullary centers and thus cause the chain reaction; though certainly stimuli produced by lesions of the stomach, intestinal tract, and associated organs of digestion predominantly govern the motor mechanism of the stomach, and thus induce vomiting more frequently. Toxins absorbed in the circulation, such as those from the gangrenous bowel, chemical poisons, and overdoses of anesthetic stimulate the medullary centers while the blood bathes the medulla, and provide a stimulus for vomiting.

Below are listed a few examples of disease states, which, through their stimuli, produce nausea and vomiting:

Medical: Measles, scarlet fever, typhoid, smallpox, pneumonia, drugs, chemicals, poisons, food contaminations, cardiorenal failure, and Menière's disease.

Traumatic: Fractures of the skull, brain injury, burns.

Metabolic: Diabetes mellitus, thyrotoxicosis.

Surgical: Acute gallbladder and billiary tract disease. Perforation, stenosis, and ulcer of esophagus, stomach, and duodenum. Superior mesenteric syndrome. Acute appendicitis, postoperative states. Mesenteric thrombosis. Malignant growths within the abdomen, pelvis, and retroperitoneal space. Intestinal obstruction, usually of the small bowel, since the ileocecal valve retards the exit of secretions in cases of large bowel obstruction. In this group may be included volvulus, intussusception, ileitis, and perforation.

One word should be mentioned as to the actual mechanics of vomiting. McCune [4] believes that the contractions of the diaphragm, muscles of the thoracic cage, and of the abdomen and not of the stomach, play the important role. Antiperistalsis of the stomach and esophagus may occur; but the expelling force results from the action of the muscles mentioned.

Confronted with the problem of making a diagnosis, where symptoms of nausea and vomiting may occur in such a multitude of disease states, the assets of experience and a large measure of common sense are priceless. Other factors which facilitate an accurate and early diagnosis are 1) a good history combined with a careful clinical evaluation of the patient through tactile, olefactory, and visual sense; 2) blood studies to include routine examination of count, hematocrite, electrolyte content, and CO_2 combining power; 3) roentgen ray examination and possibly electro-encephalographic study. For example, vomitus giving off a strong odor of acetone is not likely to be misdiagnosed as that from an obstruction if one only takes the time to notice the odor. Nor is one likely to confuse a brain injury with food poisoning, when one observes fluid draining from ears, nose, and mouth.

Treatment is specific for most disease entities, and must be carried out in accordance with the diagnosis. However, the general measures listed are usually found to be an adjunct to any specific therapy:

1. Gastric lavage.
2. Constant gastric suction.
3. Restoration of electrolyte balance.
4. Restoration of blood loss.
5. Administration of glucose or sucrose, and drugs specific for nausea such as bonamine® and thorazine® and sedatives.
6. Administration of oxygen.
7. Surgical measures.
8. Control of pain.

Summary

1. Nausea and vomiting, with or without abdominal pain, comprise a symptom complex frequently observed.

2. Because it may be a forerunner of serious illness, a diagnosis should be made as rapidly as possible.

3. A temporarily altered physiologic state, or a true disease entity may cause these symptoms.

4. The medulla may be considered the "vomiting center."

5. It is important to realize that the symptoms of nausea and vomiting may be seen in every phase of medical practice, and are not the responsibility of the surgeon alone.

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The Patient with Postnasal Drip

Betty May Young, M.D.

AT ONE TIME OR ANOTHER, almost all of us have been faced with the problem of the patient complaining of postnasal drip. This highly descriptive term has become increasingly popular with the lay public and physicians, and probably before long will make its way into medical dictionaries. The sensation to which it refers is general knowledge. All too often when these patients are examined with a nasopharyngoscope or a nasopharyngeal mirror, very little discharge is seen. This scant thick mucoid discharge, however, can cause a great deal of discomfort.

Most frequently, the patient is convinced that this postnasal drip is the result of a sinus infection. It has been my experience that the patient who has a sinus infection almost never considers postnasal drip an important part of his symptoms. If he mentions postnasal drip at all, it is spoken of as a minor portion of his discomfort. Yet, because the patient's attention has probably already been focused on his sinuses, it is well to consider this possibility first.

The patient with acute sinus infection is really ill. He generally compains of profuse nasal discharge, headache, pain and tenderness over the involved sinus, fever, and malaise. On examination, the nose and nasopharynx are seen to contain pus and, with a nasopharyngoscope, pus can be seen coming from the sinus orifices. If the involved sinus is the antrum or frontal, it will be dark on transillumination. Persons with chronic sinus infection are not obviously ill unless the infectious process is in a period of acute exacerbation. Their main complaints are usually a prolonged head cold, recurrent head colds, headaches, foul smelling nasal discharge, bad breath or cough. Physical examination of these patients may reveal much or little pus in the nasopharynx. If the sinus is irrigated, there is pus in the returning solution. The involved sinuses will be dark on roentgenogram.

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Acute allergic rhinitis is usually not difficult to diagnose. The watery itchy eyes, watery nose with its pale boggy mucosa, and the frequent sneezing simplify the diagnosis. These people rarely complain of postnasal drip, probably because their other symptoms are so much more pressing. The person with subacute or mild chronic allergic rhinitis presents a more difficult diagnostic problem. He may complain of postnasal drip but more often his complaints are of nasal discharge, sneezing, itching of nose, or nasal stuffiness. On inspection, the nose and nasopharynx are free of pus but may contain excess mucus. The turbinates are often paler than normal. Roentgenograms of the sinuses will usually show thickened mucosa with aeration of the sinuses. Stained smears of the nasal secretions will show a preponderance of eosinophiles. At times, skin testing or a trial period of desensitization may be needed to confirm the diagnosis.

In most cases, the patient who comes into the office complaining of postnasal drip is already convinced that either sinus infection or allergy is the basis of his trouble. Therefore, it is wise to start diagnostic investigation in this direction, although rarely will the person whose primary complaint is postnasal drip be found to have either of these conditions. Most frequently, when the person who complains of postnasal drip is examined, his nose is found to be free of pus and the nasopharynx appears normal or contains a few small strands of thick tenacious mucus. The sinuses appear clear by transillumination and by roentgen ray. We must consider other causes of postnasal discharge.

In many cases, undoubtedly, the unnatural stress and strain of our modern environment cause or contribute to postnasal drip. In winter, we spend long hours in overheated, underhumidified rooms. The nasal mucosa becomes dry and the nasal secretions become thick and tenacious. It is then that one becomes aware of them. Adequate humidification of inspired air would certainly help many of these sufferers, but in winter this is often difficult to achieve.

Almost everyone will have some nasal symptoms

with sudden changes of temperature, whether this results from coming from an air conditioned room into the hot summer air, or passing from an overheated room into winter's icy blast. Most of us take this as a matter of course, but there are some people who will consider this abnormal. Undoubtedly, some people are more sensitive to these changes than others, but this should be considered a variation of normal rather than a disease. I know of no treatment that will relieve these symptoms.

Excessive smoking and drinking have long been believed to cause postnasal drip. Surely anyone who smokes twenty to thirty cigarettes a day, especially if he blows much irritating smoke through the nose, should expect the nose to rebel. Yet many persons who complain of postnasal drip neither smoke nor drink. This is especially true of women in the later years of life. In the upper age groups, the secretion of many glands is depressed. So, apparently, is the secretion of the mucous glands of the nose. This leads to less mucus but thicker, more viscous mucus. In these cases, nose drops composed of 3 percent ethyl alcohol and 6 percent glycerine in normal saline are helpful. In this mixture, alcohol is used as a stimulant to secretion, and not as an antiseptic.

Endocrine factors, especially the estrogens, are believed to play a part in many cases of postnasal drip. This may be one reason why the hardest patients to treat are women during and after the menopause. Decreased thyroid activity, particularly in borderline cases, is also a cause of postnasal drip.

The extent that the nose expresses psychic conflict is often underestimated. Hostility, aggression, anxiety, and all other unpleasant emotions can be expressed by nasal and postnasal discharge.

Another large group of cases are undoubtedly drug induced. Nose drops of various kinds are the chief offenders. Constant use of nasal vasoconstrictors over a long period of time produce an inflammatory chemical rhinitis which may manifest itself as postnasal drip. The so-called rebound phenomena is another mechanism by which the nose suffers from nose drops. The patient obtains vasoconstriction from his nose drops only to have a delayed swelling of the mucosa and increased symptoms. He resorts to the nose drops again and the vicious cycle has begun. To get this patient to stop using nose drops is always difficult, but if by persuasion or subterfuge you can keep him away from the drug for several weeks, the results are striking. The withdrawal symptoms are sometimes marked. Privine®, benzedrex® inhalers, 2 percent or 3 percent ephedrine, or one percent neosynephrine® are the worst offenders, but any nasal medication can act in this manner. Systemic drugs such as raudixin or belladonna may cause such symptoms.

Anatomic irregularities are frequently blamed for causing postnasal drip. The deviated septum is believed to deflect air currents in the nose so that isolated areas of nasal mucosa are subjected to abnormal drying. This causes metaplasia of the columnar epithelium to squamous epithelium and thus causes thick mucus that gives rise to symptoms. However, the perfectly straight nasal septum is rarely seen, and all types and degrees of septal deflection that do not cause postnasal drip can be seen. Many doctors have reported curing cases of postnasal drip by submucous resection of the nasal septum, but this has not been my experience.

Hypertrophied posterior tip of the inferior nasal turbinate is responsible for some postnasal drip. For some reason, probably infection or irritation, this portion of the turbinate becomes enlarged and protrudes into the nasopharynx farther than is normal. Secretions dropping off this bulbous tip fall into the posterior nasopharynx where the patient becomes more aware of them. Using a nasopharyngoscope, these enlargements can easily be seen. Such patients are usually relieved by applications of silver nitrate to the area, but at times removal of this small hypertrophied turbinate tip is necessary.

Frequently, we see patients who say that they have relief from their nasal symptoms only when they go to the seashore, the mountains or some other vacation spot. In such cases, there are many factors to consider. Was the relief of symptoms caused by increased exercise, more rest, sunshine, pure air, change in humidity, escape from some allergen, relaxation, or relief from some emotional stress?

I believe that many cases of annoying postnasal drip can be diagnosed and the symptoms controlled or cured. It may require the combined services of the otolaryngologist, internist, allergist, pathologist, psychiatrist, and radiologist. It may require more time, effort, and expense than either the patient or the physician feels is warranted, and it may require changes in the mode of living that the patient is either unwilling or unable to make.

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CASE REPORT

A Case of Sacrococcygeal Teratoma Obstructing Delivery

Eleanor Scott, M.D.

THIS CASE IS REPORTED as an example of a somewhat rare complication of delivery. It is of interest that a roentgen ray examination of this patient's abdomen was made before delivery because of a suspected multiple pregnancy. The roentgenologist found a single fetus in face position and also suggested that there was a large tumor present, displacing the fetus to the right side of the uterus.

CASE REPORT

The patient, D.S., was a 30 year old para 2-2-0-0-2 whose expected date of delivery was November 29, 1954. Her prenatal course was uneventful until November 9, 1954, at 38 weeks. The abdomen seemed unusually large, and the fetal parts not well outlined, and so a flat plate of the abdomen was requested, with the possibility of multiple pregnancy in mind. The roentgen ray was taken by Dr. Webster Brown. His report is as follows:

"*Abdomen*. There is a single fetus within the uterus. The head is fully extended on the neck and the fetus is presenting by the brow. The fetus is crowded into the right side of the uterus by a mass on the left half of the uterus."

The next time the patient returned, in her thirty-ninth week, the head was lower, and the face position clinically obvious. The nose could be felt through the lower uterine segment.

The patient went into labor November 29, 1954, and the delivery note follows:

Mrs. D. S., November 29, 1954. Patient's membranes ruptured spontaneously at home. Patient was then admitted in early labor, face presentation still present: a right mentoanterior. When cervix was 3 cm dilated, she was taken to the delivery room. Under light anesthesia, the face was rotated to mentoposterior, the head was then flexed with one hand in the vagina and one hand on the abdomen, and held in this position. The patient was allowed to wake and have a pain; this effectively converted the position to vertex, OA. The fetal heart remained good after this maneuver. Labor progressed rapidly for about two hours; when cervix was fully dilated and the head distending the perineum, gas-ether anesthesia was given and outlet forceps easily delivered the head. There was some difficulty with the shoulders, but by a combination of pressure and hooking one finger in the axilla, the arms were extracted. No further progress could be made even though the resident pushed on the abdomen and the operator pulled as hard as was thought advisable for the baby. A hand was then inserted into the uterus to find the cause of the obstruction. A tumor mass, which seemed to be attached to the baby's back, was high in the uterus and could not be made to pass through the inlet. By this time, it was obvious that the baby could not survive, so more strenuous efforts at extracting were made with little results. The resident, pushing on the abdomen, said the abdomen still felt as though a fetus was present, the uterus was so large. Since the baby had, by this time, expired, it was decided, in order to save the mother any trauma, to procede slowly and cautiously to evacuate the uterus. An attempt was made to insert a spinal needle into the tumor which felt cystic. Only a few drops were obtained. The baby was then maneuvered farther down so that the tumor could be reached with a pair of craniotomy scissors. These were inserted into the lower border of the tumor. Only a small amount of fluid was evacuated. Two fingers then were inserted into the incision made by the scissors and the tumor seemed to be multilocular. By spreading the fingers it was possible to break several more cysts, releasing more fluid. The tumor then collapsed sufficiently to allow delivery of the baby. It was seen that this cystic tumor arose from the baby's back just above the hips and continued down over the buttocks. The rectum came out at the lower edge of the tumor.

An extensive second degree laceration was incurred during this procedure. The tear extended along both sides of the sphincter, but not through it. The cervix was inspected with ring forceps; no tears were found. The episiotomy was repaired in the usual fashion. The patient did not lose more than the average amount of blood and remained in good condition throughout the procedure.

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Fig. 1 Fig. 2

Fig. 1. Arrows mark border areas where tumor mass is displacing fetus. Fig. 2. Photograph of infant taken after delivery, and after considerable amount of tissue had been evacuated from tumor, to allow for delivery.

The autopsy report on the baby was as follows:

Franklin Square Hospital
Autopsy Protocol

Name: Baby Girl S.
Age: Stillborn
Sex: Female Service: Eleanor Scott, M.D.
Autopsied by: Dr. R. D. Wright Autopsy No. 1155-A

Clinical Summary. (As described above.)

Gross Notes. The body is that of a female infant weighing 3,500 Gm. There is a large, soft, oval mass attached to the sacral region. It is 14 cm. in diameter and is covered entirely by skin. The skin has a slit about 5 cm. long. Underneath the skin and closely adherent to it is a grayish, fibrous, membranous structure. On cutting through the mass, a small amount of cloudy, colorless fluid oozes out. The great part of the mass is composed of soft, friable, light brown material having the consistency of brain tissue. This is adherent to the membranous structure described before and breaks into fragments when an attempt is made to peel it out. Underneath the mass, there is a defect in the midportion of the sacrum and the lower lumbar vertebrae. This is an irregularly oval opening about 5 x 3 cm.

It cannot be determined definitely if the membranous covering of the mass has any relation to the dura of the spinal cord. Nor can it be stated with certainty if the mass was connected with the spinal cord, since it had been reduced into irregular fragments during the process of delivery.

The other organs of the body show no abnormality, either gross or microscopic. No other congenital defects are present.

Microscopic Note. Numerous sections made from representative sections of the tumor show it to be entirely composed of normal looking brain tissue. No other structures are seen, but it is quite possible that they might be present. The covering of the tumor consists of normal muscles, fat, and nerve tissue.

Final Diagnosis. Spina bifida, meningocele, and teratoma within meningocele sac.

Discussion

Sacrococcygeal teratoma is a rare complication of pregnancy. Congenital tumors of the sacrococcygeal region occur once in 34,582 births, and teratomas make up only a small percent of these. Seventy-five percent of the teratomas occur in female infants.

Sacrococcygeal teratomas are usually obvious at birth, but may vary in manifestation from a small discoloration on the buttocks, or a small walnut size nodule, to a large sacrococcygeal mass which causes dystocia and fetal death.[1] Ewing (quoted by[1]) says that one third of the subjects are born dead and 90 percent die in the first few days.

Teratomas of the sacral region usually contain cysts lined by various types of epithelium, dermoid,

segments of intestinal mucosa, and also solid structures: fat, muscle, cartilage, bone, and particles of nerve tissue.[2]

There are several reports in the literature of these tumors causing dystocia. One by Neal and Carlisle[3] reports a case occurring during home delivery. Birth progressed normally with the head and shoulders of a baby that breathed being born, but the remaining trunk and lower extremities could not be delivered, even under general anesthesia. The patient was hospitalized. Partial dismemberment of fetus was agreed on, performed, and delivery was accomplished five and a half hours after the head and shoulders had been born.

Other cases of this tumor causing dystocia are reported by Walls[4] and Tribble.[5]

Our case is unique in the fact that a large intrauterine tumor was diagnosed by roentgen ray before delivery. Since the nature of, exact size, and location of the tumor was not known, it was decided to handle this case from below. It would be interesting to know whether other sacrococcygeal tumors have had predelivery roentgenogram, and if so, whether the picture was similar to ours.

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GRACE G. JONES, M.D., F.A.C.S.

Guest Editor

Dr. Jones holds a Bachelor of Science degree from the Johns Hopkins University, and is a graduate of the Woman's Medical College of Pennsylvania. She served a one year rotating internship at the Hospital of the Woman's Medical College, following which she spent a year as dispensary physician in the clinics of the Johns Hopkins Hospital and the Hospital of the University of Maryland. She had a five year residency in surgery at the Philipsburg State Hospital, Philipsburg, Pennsylvania. She has also had postgraduate courses at the Cook County Graduate School of Medicine, Chicago, in dog surgery, surgical pathology, and anatomy.

During World World II, Dr. Jones was in charge of the medical facilities of the United States Navy's largest munitions plant, located in Charlotte, North Carolina. She had the unique distinction of being the only woman doctor in the country at the head of an ammunition plant's medical department. At the close of hostilities, she remained as consultant for several months, during which time she had begun the active practice of general surgery in that city. She was then the only woman surgeon in North or South Carolina.

Dr. Jones holds licenses to practice medicine in Maryland, Pennsylvania, North Carolina, and Illinois. She is a Fellow of the American College of Surgeons, Fellow of the Southeastern Surgical Congress, and a Fellow of the Scientific Research Society of America.

She has recently returned to Baltimore, which was her home, to remain permanently, and is on the staff of the Lutheran Hospital of Maryland, Department of General Surgery.

Notes on College Health Services

Grace Hiller, M.D.

In 1856, just a hundred years ago, the college and university health services of the present day had their beginnings when Pres. William A. Stearns of Amherst College, in Amherst, Massachusetts, publicly stated that "The breaking down of the health of the students, especially in the spring of the year, which is exceedingly common, involving the necessity of leaving college in many instances and crippling the energies and destroying the prospects of not a few who remain, is in my opinion wholly unnecessary if proper measures could be taken to prevent it."[1] In 1861, five years later, a "Department of Hygiene and Physical Education" was created at Amherst College under the direction of Prof. Edward Hitchcock, a physician who had graduated from Harvard Medical School in 1853. Thus was established the first comprehensive program for medical care of college students. Included in this initial program were medical examinations, physical exercise, and clinical care. This is essentially the basic program of present day health services, with emphasis today, as then, on the prevention as well as the care of illness, physical, mental, and emotional, and on the education of the student in healthful living practices.

Although almost every institution of higher learning today has some type of program to meet the health needs of its students and its campus community, provisions vary from the college in which a single nurse, or a member of the physical education department, is in charge of the health of students, to the larger universities which maintain a college hospital with a staff of doctors, including psychiatrists and other specialists, nurses, dieticians, psychologists, social service personnel, and specialists in counseling. Many institutions which would like to offer students all of the facilities and services that present knowledge makes possible are limited by the cost of these services. In a number of institutions, insurance plans are helping to meet these problems of cost.

Dr. Hiller is Director of Student Health Service, Goucher College, Baltimore.

Spurred by the findings of the draft boards of 1917 that approximately one third of the young men of draft age were unfit for military duty, a group of doctors and others in student health work met in 1920 to form the American Student Health Association. Annual meetings of this association (since 1948, the American College Health Association) have been held since that time with the exception of three years during World War II. The purpose of this organization is "to raise the standard of health services in colleges, promote educational measures that tend to bring such improvement, and to share information concerning new projects being carried out in the various colleges."[1] In co-operation with other organizations interested in student health, in particular the National Tuberculosis Association, this Association has participated in a series of conferences on health in colleges; the first in 1931, the second in 1936, and the third in 1947. The Fourth National Conference on Health in Colleges was held in New York in May 1954. This conference had as its theme, "Teamwork in Meeting the Health Needs of College Students." It was attended not only by physicians, health educators, athletic coaches, and directors and professors of physical education, but also by deans, college presidents, and students. Divided into some sixteen working committees, each with its student and administrative representatives, this large and representative group discussed all phases of the health needs of college students and developed recommendations which were subsequently published, as were the proceedings of the preceding conferences, and which are a valuable guide to all concerned, directly or indirectly, with the health of students.[2]

Another publication of especial interest to physicians and to others working in the field of student health is the journal *Student Medicine* which has been published semi-annually since 1952 by the Department of Clinical and Preventive Medicine of Cornell University. This journal affords an outlet for the exchange of information regarding illnesses most commonly met in the college age group, including emotional illnesses, and for the presentation of the results of studies being carried on in various health services in the effort to evaluate and meet some of the problems which confront the college

and university student of today. Case reports from the Cornell University Infirmary and Clinic are a valuable feature of recent issues.

The women's colleges were among the first to provide health services for students. Goucher College, then the Women's College of Baltimore, in its first academic year (1888), appointed a woman physician to its faculty, Dr. Alice T. Hall. Her title was "Professor of Physicial Training and Hygiene, Lecturer on Human Anatomy and Physiology, and Director of the Gymnasium." In 1892, Dr. Mary V. Mitchell succeeded Dr. Hall; and in 1894, Dr. Lillian Welsh, who became one of the foremost physicians of her time in the field of preventive medicine and public health, was appointed to this post. This department at the Women's College was unusual in that, unlike the other women's colleges with physicians on their faculties primarily for the care of the sick, the function of the physician on the Women's College faculty was "the promotion of the health of students" through instruction in hygiene and public health, and physical exercises in the gymnasium. The care of student illness was entirely the responsibility of a resident trained nurse who called in male physicians practicing in Baltimore when students needed a doctor's care. As part of this program for the promotion of health, the physician made a physical examination of every student who entered college and, on the basis of these examinations, assigned students to work in the gymnasium, these gymnastic exercises being under the close supervision of the physician. In the course of time, Dr. Welsh logically assumed direction of the infirmary and the care of sick students so that by 1914, and until her retirement in 1924, she was in full charge of a department of hygiene, which she had developed, with three well integrated subdivisions: Health Instruction, Health Supervision, and Care of the Sick.[3] Subsequent to Dr. Welsh's retirement, and in accordance with the trend of the times, this single department became three departments, each with its own director: the Student Health Service, the Department of Physical Education, and the Department of Physiology.

Front entrance, Mary Fisher Hall, Goucher College.

This account of the experience at Goucher College is illustrative, in a very general way, of the evolution of present day college and university health services from their inception a hundred years ago in the mind and heart of President Stearns at Amherst College.

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Hospitals and Clinics of Our Women Doctors

REBECCA PARRISH MEMORIAL CLINIC*

Fe del Mundo, M.D., and G. F. Elizalde-Nazareno, M.D.

THE PHILIPPINE MEDICAL WOMEN'S ASSOCIATION Charity Clinic, now called the Rebecca Parrish Memorial Clinic, located in Manila, was made possible through the generous financial and moral support of the American Women's Hospitals of the American Medical Women's Association and also through the kind help of the Methodist Social Center which allows the free use of the clinic building. The Clinic was started on February 12, 1951, with an initial donation of $50 given by our American colleagues which was soon followed by a shipment of medical supplies worth $1,000 and a regular monthly donation of $100. The Clinic is open daily from Monday to Saturday, where indigent women and children are seen by our members who take turns in the Clinic. Immunizations and a number of medicines are given without charge.

The School of Midwifery of our Dr. Rosita Rivera-Ramirez sends three midwives every day to help carry out the work. Since 1952, we have given a room in the Clinic to the Lady Dentists Association of the Philippines where they also give free treatments.

In 1951, 2,144 patients were seen, and in 1955 there were 4,857. During the year 1951 to 1952, morning and afternoon clinics were held. Beginning in 1953 up to the present, the afternoon clinics were discontinued with the exception of the once a week afternoon clinic under Dr. del Mundo. In spite of this, instead of the expected drop in the yearly total number of patients, there was an increase of 293 patients for the year 1953 as compared with those for 1952.

For the year 1954, there was an increase of 1,235 patients over those for 1953. This increase is attributed partly to the milk distribution given at the Clinic to undernourished, underdeveloped children, nursing infants whose mothers were too poor to buy milk to supplement their inadequate breast milk, and to tuberculous children. Part of the milk distributed was bought through the monthly milk fund donated by the American Medical Women's Association and the rest came from the UNICEF. Many children who were not considered by their parents sick of any disease, but who were thin, pale, emaciated or stunted in growth and development, flocked to the Clinic clamoring for milk rations. We are sorry to say that not all were accommodated for the milk distributed was still inadequate to meet the demand. It was a pity to reject many deserving children who came to ask for milk rations. However, it was rather satisfying to watch the recipients of the milk rations gain in weight and height, become lively, and register increases in their mental and physical development.

A week before Christmas, we gave Christmas cheer to the poor children of more than a hundred families by distributing foodstuffs, clothing, toys, toilet articles, and so forth, to them. There were plenty who came but were unable to receive Christmas gifts because the funds of the Clinic are limited and they could not be accommodated.

In conclusion, we express again our gratitude and appreciation to all who have helped and are still helping the Clinic with their financial and moral support, especially to our American women colleagues. May we expect their further support to insure the continued success of our Clinic.

*Reprinted by permission from the *Philippine Medical World* **16**:622-625, Aug. '55

Dr. del Mundo is Owner and Director of the Little Clinic and head of the Department of Pediatrics at the F.E.U. Institute of Medicine, Quezon City, Philippines. She was for five terms President of the Philippine Medical Women's Association, and for three terms President of the Philippine Pediatric Society. Dr. del Mundo is Vice-President for the Western Pacific Area of the Medical Women's International Association.

World Health Organization

MOST ACCIDENTS TO CHILDREN can be prevented. The better the knowledge about accidents, the easier they are to prevent. Reliable statistics on fatal and non-fatal accidents (giving information on the when? where? to whom? how? and why? of accidents) can be important tools in preventive work. Such statistics help to arouse interest, they point the way to intelligent action, they provide a measure of results achieved. Reducing accidents in Europe by half would be a realistic goal and would achieve results comparable to the success already achieved in reducing infectious diseases in childhood. The prevention of accidental injuries should thus take high priority in public health work. However, little is at present known in most European countries about the damage done by non-fatal accidents.

These are some of the conclusions reached in the report of the Advisory Group on the Prevention of Accidents in Childhood, which met in Geneva from June 4 to 8, 1956.

That accidents can be prevented is indicated by the low rates achieved in countries where accident education has been actively pursued and appropriate legislation applied. Accident education today can be much more effective because much more is known about accidents. For example, the statistics have taught us not to let children sit in the front seat next to the driver. Experience has shown that the seat belt for children (an idea derived from aircraft construction) will greatly reduce injuries in case of a collision. Statistics on home accidents have, in many countries, led to a complete redesigning of kitchen utensils and general installation. In other words, education needs to be based on facts, and more facts are needed. What applies to education applies also to other domains of accident prevention: engineering, architecture, traffic organization, town planning, and legislation. Parliamentarians, before adopting legislation that, for example, makes crash helmets obligatory for motorcyclists, will need to be convinced by statistically valid arguments on the minimum standards of safety.

The WHO Advisory Group came out strong against the fatalistic attitude expressed in the saying "Accidents will happen." However, it is clear that small bumps, falls, and scratches help to teach children to move about in the world, to use their hands, to resist pain, and to avoid it. Perhaps you need to hit a finger with the hammer before you learn to hit the nail. Yet, letting children fend for themselves and be independent is one thing; exposing them to the risk of serious accident is another, and every effort should be made to render a serious accident impossible. If a youngster wants to play with wire, see that the wire does not carry electricity. Disfigurement or permanent disability is too high a price to pay for any form of education in a technologically dangerous world.

Preventive work includes preventing accidents from having serious consequence. Here parents may be a problem for they are apt to worry more about the child's disability than the child himself. Far from helping, this worry may be a hindrance (perhaps also to the child's brothers and sisters). The Advisory Group considered that the work of rehabilitating the child for life among his fellows should be started as soon as possible and indeed should be an integral part of the treatment of the injury. Whenever at all feasible, the partially disabled child should go to an ordinary school. "The education of crippled children" the report says, "should never be sacrificed to medical procedures. There may be effective splints for a damaged or disused limb, but there are none for a disused mind."

* * * *

Accidents have become a serious and often a leading cause of death among children and adolescents, whereas mortality from communicable diseases, formerly very high, is continually decreasing.

These facts are shown in a statistical report,* published by the World Health Organization, which presents statistics from 18** countries on deaths which are caused by accidents other than transport accidents.

In 1953, in this group of countries, 8,415 boys between 5 and 19 years of age died from infectious and parasitic diseases, compared with 13,414 in the same age group killed in accidents (5,948 of them by drowning). Thus, for a year, there were 159 accidental deaths for every 100 from the abovementioned diseases in this group.

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*WHO Epidemiological and Vital Statistics Report, Vol 9, No. 1, 1956

**The countries whose statistics are included in the report are Canada, United States, Ceylon, Japan, Germany, Austria, Denmark, Finland, France, Ireland, Italy, Norway, Netherlands, United Kingdom, Sweden, Switzerland, Australia, and New Zealand.

American Medical Women's Association

PRESIDENT'S MESSAGE

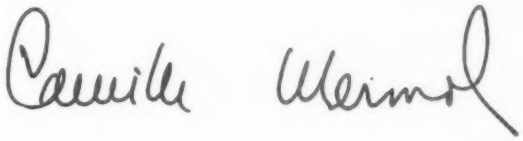
With the month of August, we reach the last days of our vacations. Leaving our work behind gives us a better perspective of it, something which is difficult to do as we go busily from place to place.

There are many facets of our job which should be taken into consideration. Most of us lead a double life: we have home cares and professional responsibilities. How to divide our time and energy so that neither will be slighted is always a difficult question.

Recently, the daily papers have been pointing out that doctors are not active enough in community affairs. Civic responsibilities then should also be budgeted among the various other jobs a doctor does.

We realize that we live surrounded by people who turn to us for advice regarding their health. Should we not also assume a similar position of leadership in community health affairs? Most of the various organizations, the service clubs, agencies dealing with recreation and advice to young people, P.T.A., and so forth, have health guidance committees. How many of these committees have doctors in charge of them or as an active member? The answer should be, "all of them," but is it? If the answer is "no," then it behooves us to make it "yes."

We need not try to join so many organizations that we do not have time to work in them properly. Let each member of the AMWA choose one community activity in which she is interested and exert her best efforts in that one area. Decide on this project now and put it down as one of the "musts" to be accomplished. It is an important part of our work as doctors.



MWIA MEETING 1956

Bürgenstock, Switzerland

Friday, September 21 —Meeting of the Executive.
Saturday, September 22 —Meeting of the Executive.
—Registration
Sunday, September 23 —Council Meeting and General Assembly.
Monday, September 24 —Scientific Sessions.
Wednesday, September 19 —Council Meeting and General Assembly.
Thursday, September 20 —Meeting of the Executive.

The theme of the Scientific Session is "The Problems of the Married Woman Working Outside the Home, and Their Effects on the Physical and Mental Well-Being of the Family Group." There will be a general session in the morning, with four speakers. In the afternoon, there will be discussion of the papers in groups of 10 or 20, followed by a general meeting at which the reports of the discussions will be given. Prof. Charlotte Ruys will be chairman of the Scientific Session.

M. Eugenia Geib, M.D.
National Corresponding Secretary

High Lights of the 1956 Annual Meeting

A Scholastic Award of $100 will be given to each woman who graduates in first place from an approved American medical school in 1957.

The Honorable Mention Citations will be presented to all women who graduate in the *upper ten percent* of their classes. (Change: from upper ten to upper ten percent.)

The Medical Woman of the Year project will be continued on the basis of voluntary participation by the Branches, as follows:

1. Each Branch may have the privilege of selecting a woman physician as the (Branch) Medical Woman of the Year.

2. The woman honored should be chosen for (a) her outstanding contribution to her profession, (b) her outstanding contribution to her community, or (c) her outstanding contribution to her fellow beings.

3. The Branch determines if it wishes to participate in the project.

4. Biographies and pictures of the nominees for 1956 should be sent to the Association office not later than August 15, 1956, so that they can be published in the November JOURNAL.

5. If a Branch has no available candidate, they may omit a nomination in any one year and resume nominating candidates in subsequent years.

Field Service visits to Branches or areas without Branches for the purpose of interpretation of the scope of work of the Association was authorized.

Dr. Esther C. Marting was appointed Director of Junior Membership to fill the vacancy caused by the resignation of Dr. Elizabeth S. Kahler, President-Elect.

The newly appointed committee chairmen are listed in this JOURNAL under the heading of Board of Directors.

The 1957 Board of Directors Meeting will be held in Dallas, Texas.

The Association offices will remain in the building at 1790 Broadway, New York 19, New York, if additional satisfactory space can be arranged. A five year lease will be signed.

The following Resolutions were adopted:

International

A. WHEREAS, President Eisenhower is advocating an exchange of professional persons between the USA and the USRR—

Be it resolved that the President of the AMWA be instructed to inform the Secretary of State that a group of delegates from AMWA to the MWIA Assembly in Switzerland will visit Russia from September 11 to 16, 1956, and will be glad to participate in any program they wish to arrange.

B. *Be it further resolved* that the AMWA will be glad to co-operate with the State Department at any time and in whatever way it is able in the arrangement for visits of foreign women doctors to this country.

Library

WHEREAS the American Medical Women's Association has for some time been seeking a contract between the Women's Medical College of Pennsylvania and the American Medical Women's Association, Inc., and its Trustees of the Library, and,

WHEREAS a contract was put into the hand of the Library Committee (only) on the day of convening this meeting, and

WHEREAS there has been insufficient time for due consideration of this contract by all interested parties:

Be it hereby resolved that the outgoing and incoming Presidents of the American Medical Women's Association together with the Trustees of the Library be empowered to discuss this contract further with the Woman's Medical College of Pennsylvania, and to obtain legal counsel if this is necessary,

Be it further resolved that the outgoing and incoming Presidents and Trustees of the Library be instructed to report their findings at the next Mid-Year Meeting of the Board of Directors for action at the 1957 Annual Meeting, and

Be it further resolved that the Trustees of the Library be requested to draw up an article explaining the full ramifications of this Library problem to be published in the JOURNAL OF THE AMERICAN MEDICAL WOMEN'S ASSOCIATION prior to the next Mid-Year Board of Directors Meeting in order that delegates to the Mid-Year Board of Directors Meeting can come from the Branches (of the AMWA) which they represent with some expression on the matter.

The 1956 Board of Directors Meeting will be at the Somerset Hotel, Boston, Massachusetts, November 8, 9, 10, and 11.

The 1957 Annual Meeting will be at the Barbizon Plaza Hotel, New York, New York, May 30, 31, June 1 and 2.

Opportunities for Women in Medicine

MEETINGS

The effectiveness of current public health programs on international, national, state, and local levels will be analyzed in the five day eighty-fourth annual meeting of the American Public Health Association and meetings of 40 related organizations in Atlantic City, New Jersey, November 12 to 16, 1956.

More than 4,000 public health workers from all parts of the free world are expected to attend. Representing both governmental and voluntary health organizations and institutions, they will include physicians, dentists, nurses, engineers, statisticians, veterinarians, sanitarians, nutritionists, health educators, entomologists, biologists, and other specialists concerned with disease prevention and health protection.

For further information write Dr. Reginald M. Atwater, Executive Secretary, American Public Health Association, 1790 Broadway, New York 19, New York.

* * * *

The University of Miami, School of Medicine, jointly with the University of Havana, Cuba, School of Medicine, will hold this year the first Inter-American Conference on Occupational Medicine and Toxicology. The meeting will be held September 3 to 7, 1956. The official language of the program will be Spanish.

This year the conference will be held in Miami with the University of Miami, School of Medicine, serving as host. It is expected that this conference will be repeated next year with the University of Havana serving as host. The program is in the hands of a committee from these two universities.

The program at this time includes speakers from Venezuela, Mexico, Peru, Colombia, Chile, Puerto Rico, Cuba, and the United States.

Papers to be presented include topics such as the following: "Establishment of a Medical Department in Industry," "Work and Fatigue in Industry," "Effects of Environmental Conditions on the Health of the Occupational Worker," "Recording of Medical Case Histories," "Control of Malaria in Endemic Areas," "Occupation and Heart Disease," "The Role of the Anesthesiologist in Acute Poisoning," "Neurologic Problems in Occupational Medicine and Toxicology," "The Treatment of Intoxications by Organic Phosphates," "Treatment of Berylliosis," and the "Treatment of Manganese Intoxications."

For further information write Dr. William B. Deichmann, Professor of Pharmacology, University of Miami, School of Medicine, Coral Gables, Florida.

RESEARCH FELLOWSHIPS AND GRANTS

Applications for awards available July 1, 1957, will be received by the Life Insurance Medical Research Fund as follows: (1) Postdoctoral research fellowships, until October 15, 1956. Candidates may apply for support in any field of the medical sciences. Preference is given to those who wish to work on cardiovascular function and disease or related fundamental problems. Minimum stipend $3,800, with allowances for dependents and necessary travel. (2) Grants to institutions in aid of research on cardiovascular problems, until November 1, 1956. Support is available for physiologic, biochemical, and other basic work broadly related to cardiovascular problems as well as for clinical research in this field. Approximately $1,000,000 will be available for the two types of award. Further information and application forms may be obtained from the Scientific Director, Life Insurance Medical Resarch Fund, 345 East 46th Street, New York 17, N. Y.

COURSE IN POSTGRADUATE GASTROENTEROLOGY

The American College of Gastroenterology announces that its annual course in postgraduate gastroenterology will be given in New York on October 18, 19, and 20, 1956.

The subject matter to be covered in the course, from a medical as well as surgical viewpoint, will cover, essentially, the advances in diagnosis and treatment of gastrointestinal diseases and a comprehensive discussion of diseases of the mouth, esophagus, stomach, pancreas, spleen, liver and gallbladder, colon, and rectum, with special studies of radiology and gastroscopy.

For further information and enrollment write to the American College of Gastroenterology, Department P.G., 33 West 60th Street, New York 23, New York.

MWIA HISTORY

The Executive of the MWIA is interested in collecting material for a history of the Association. Any member having clippings, programs, or similar material is asked to communicate with the Secretary, Dr. Janet K. Aitken, 30a Acacia Road, London N.W. 8, England.

AWARDS

The American Urologic Association offers an annual award of $1,000 (first prize of $500, second prize $300, and third prize $200) for essays on the result of some clinical or laboratory research in urology. Competition shall be limited to urologists who have been graduated not more than ten years, and to hospital interns and residents doing research work in urology.

For full particulars write the Executive Secretary, William P. Didusch, 1120 N. Charles St., Baltimore, Md. Essays must be in his hands before December 1, 1956.

GROUP PROGRAM

A new group program is designed to meet the needs of people who wish to gain in emotional insight and security or who experience difficulties in interpersonal relations, marriage, and parenthood.

Each group will consist of a maximum of nine persons, both sexes. The techniques applied are a direct result of six years of intensive research into the effectiveness of the various forms of psychotherapy and group therapy.

A similar program is provided for persons in professional activities who would benefit from a deeper understanding of group dynamics and human relations. This program is offered to teachers, ministers, persons in the creative arts, lawyers, executives, physicians, psychologists, social workers, nurses, psychiatric aides, as well as students in these and related fields.

The groups are being conducted at various locations in the City of New York under the auspices and direction of the Foundation.

Application for admission can be made through the American Mental Health Foundation, Inc., 151 Central Park West, New York 23, N. Y.

THESE WERE THE FIRST

Dr. Ada Chree Reid, born in Canterbury, Connecticut, graduated in 1925 from Cornell in medicine and interned at the New York Infirmary. Dr. Reid is the first person to be simultaneously on the boards of the United States Committee of the World Medical Association and of National Citizens' Committee For The World Health Organization. During World War II, Dr. Reid was Consultant for Procurement and Assignment, War Manpower Commission; and, in 1949, was the recipient of the Elizabeth Blackwell Award of the New York Infirmary. In 1950, Dr. Reid was elected President of the Medical Women's International Association, and is widely known as physician, writer, editor, and traveler.

Dr. Lillie Rosa Minoka Hill, graduate of the Woman's Medical College of Pennsylvania in 1899, and a member of the Mohawk tribe of Indians, in 1947 was the recipient of the Indian Achievement Medal from the Indian Council Fire. After five years of practice in Philadelphia, she went to the Oneida Reservation with her husband, Dr. Charles A. Hill, and on his death in 1916, resumed her practice. Dr. Minoka Hill was left with six children to care for, and her work among the Oneida Indians was one of unselfishness and devotion. "You-dagent" ("she who carries aid") was the name given her by her people.

Dr. Louise Larimore, graduate of the Woman's Medical College of Pennsylvania in 1915, received an award from the Woman's Hospital of Philadelphia for her invention of a portable high-powered microscope. Dr. Larimore constructed 14 radio sets and held a two-way radio operator's license. Dr. Larimore was a Fellow in the Rockefeller Research Foundation, a well-known pathologist, and director of the laboratory at Greenwich Hospital, and Glen Cove Hospital, Long Island. She was once president of the Women's Philatelic Society of New York which she helped to organize.

Dr. Radmilla Lazarewitch graduated from the University of Zurich, Switzerland, in 1878; was the first woman physician to practice in Serbia; and for many years worked in Belgrade for the state, giving her services voluntarily for public health.

—From the Elizabeth Bass collection Rudolph Matas Medical Library, Tulane University.

BERTHA TAPMAN SHAMER, M.D.

In the November 1952 issue of the Journal, an interesting account of the formation, in 1914, of the Women's Medical Society of Maryland, later to become Branch Three of the AMWA, was detailed by a charter member, Dr. P. S. Bourdeau-Sisco, whose vision and inspiration made possible the formation of the Washington chapter, Branch One, and later the Maryland chapter, Branch Three. Another beloved member of the Women's Medical Society of Maryland, and a charter member of Branch Three, the only other charter member who is still with us, is Dr. Bertha Tapman Shamer.

Dr. Shamer is a graduate of the Women's Medical College of Baltimore. She spent five years doing pediatrics and medicine at the Johns Hopkins clinics. Her venture into private practice was not only marked by success, but also it left its influence on the community at large. From 1915 to 1920, she was the physician for the Mothers' Relief Society, doing obstetrical work at Locust Point. From 1915 to 1925, she served as woman physician for the Juvenile Court.

In addition to the heavy load of obstetrical work, including home and hospital deliveries for the Mothers' Relief Society, Dr. Shamer was responsible for the examination of the many female children under 16 appearing in Juvenile Court. Some were casualties of maladjusted homes, but the majority were offenders. She also had charge, along with another doctor, of the city-operated Medical and Surgical Clinic for a period of five years. Here, in addition to seeing as many as 40 patients a day, she gave anesthetics for surgical procedures which could be performed there.

When Dr. Shamer began to practice, she had to treat disease at its worst, and often with therapeutic aid which was inadequate. She remembers the very frequent appearance of such diseases as typhoid fever, diphtheria, and smallpox. Because of the scourge of diphtheria, before the days of immunization, it was not unusual to give antitoxin routinely, as a preventive measure, when a patient appeared with a sore throat.

Dr. Shamer was one of the first doctors in the city to administer salvarsan in the treatment of lues. This disease she saw in all its forms frequently. This doctor remembers vividly using mercurial ointment on children over a period of several years to bring the disease under control. She has seen many changes in medicine of the twentieth century, seen the great strides forward in therapeutic methods, has seen the dramatic increase in new drugs, and the regression of killing diseases; and with it all she has kept up-to-date.

Dr. Shamer is the wife of a prominent Baltimore physician, Dr. Maurice E. Shamer. They have three children. One daughter, Miriam, has studied medicine. Dr. Shamer also adopted three children.

Dr. Shamer has not only done much for the community, but also has been a great asset to the Society, and in her very gracious manner has encouraged many a doctor starting out in practice. Still active and dynamic after 41 years of successful practice, she has exploded many of the erroneous ideas about women in medicine. She has given Baltimore an opportunity to see how a lovely lady, who is a woman doctor, can carry on in the highest tradition of the medical sciences. The Women's Medical Society of Maryland therefore appreciates an opportunity to honor her.

—Grace G. Jones, M.D.

News of Women in Medicine

ALABAMA. Dr. Alice McNeal of Birmingham was elected president of the Southern Society of Anesthesiologists.

CONNECTICUT. A special conference on poliomyelitis was held in connection with the annual alumni day program at Yale University School of Medicine, New Haven. "Recent Advances in Diagnosis" was presented by Dr. Dorothy M. Horstmann of New Haven.

GEORGIA. At a recent meeting of the Elbert County Medical Society, Dr. Phyllis J. O'Neal of Elberton was installed as president of the Society. Dr. O'Neal is the first woman to practice medicine in Elbert County and as such is the first woman to serve as president of the Elbert County Medical Society.

Dr. Virginia Hamilton Maley, formerly of Gainesville, has gone to Cartersville to assume her duties as commissioner of health for Bartow, Gordon, and Cherokee counties. Dr. Maley is a graduate of the University of Alabama and the Medical College of Alabama. For the past five years, she has been commissioner of health for Hall and Banks counties.

INDIANA. Dr. Margaret E. Morgan has received considerable mention for her work at the Larue Carter Memorial Hospital in Indianapolis, Indiana, where she is administrative head of the Indiana mental health system. Dr. Morgan's work in that field was recently cited by the American Psychiatric Association. A qualified surgeon as well as a psychiatrist, she left an assistant professorship at the Indiana University School of Medicine to modernize care of Indiana's mentally ill. Her position is an important one in the Indiana Department of Health.

IOWA. The Fayette County Medical Society recently gave a dinner in Oelwein in honor of Dr. Elizabeth Smith-Kennedy, a life member of the Iowa State Medical Society, who has practiced medicine for 55 years. Her two daughters and a niece whom she reared are also physicians.

MARYLAND. The cause of an often fatal metabolic disease of children has been discovered by scientists of the Public Health Service's National Institute of Arthritis and Metabolic Diseases. Dr. Herman M. Kalckar, Dr. Elizabeth P. Anderson, and Dr. Kurt J. Isselbacher, in work conducted at the National Institutes of Health, Bethesda, Maryland, have unraveled much of the mystery surrounding the little understood children's disease, galactosemia, also known as galactose diabetes. The Institute scientists have discovered a hitherto unknown enzyme in normal red blood cells, which they call P-Gal transferase. This enzyme, they found, is necessary to complete conversion in the body of galactose into glucose, the common sugar of the blood.

MASSACHUSETTS. Dr. Marian C. Putnam, psychiatrist and former codirector of the James Jackson Putnam Children's Center in Boston, spoke to the Boston Association for Childbirth Education at their May meeting on the subject: "Developmental Problems in the Early Years."

Dr. Myrtle Smith of Shrewsbury received a Fifty Year pin at the annual meeting of the Massachusetts State Medical Society.

The annual spring meeting of the New England Rheumatism Society was held at the New England Medical Center on May 18, 1956. The program included "Proposed Diagnostic Criteria for Rheumatoid Arthritis" by Dr. Marian W. Ropes.

MICHIGAN. The Blackwell Society held a dinner meeting on January 25, 1956, in Detroit. A symposium, "Rheumatic Heart Disease," was presented with Dr. Margaret A. Baima as moderator; and Dr. Ruth M. Kraft, Dr. William B. McIntyre, Dr. Joan C. Stryker, and Dr. James B. Blodgett as collaborators.

NEW JERSEY. Dr. M. Eugenia Geib was chosen the most distinguished member of her class of 400 at the Battin High School, Elizabeth, at their reunion.

NEW YORK. Dr. Jonas Salk spoke at the opening day session of the second congress of the World Confederation for Physical Therapy in New York. Dr. Leona Baumgartner, commissioner of the New York City Department of Health, and Dr. Herman E. Hilleboe, New York State health commissioner, also spoke at the opening session on Monday morning. Another speaker was Dr. Catherine A. Worthingham, director of professional education, National Foundation for Infantile Paralysis.

Dr. Baumgartner visited India recently at the invitation of the minister for health. She was asked to act as consultant to the Indian Ministry for Health on health problems, particularly those of maternal and child health.

Newly elected officers of the New York Allergy Society include Dr. Leoni N. Claman, New York, vice-president.

"Narcotic addiction is a distinct medical entity, but government policy has stripped the American physician of power to combat it. It will be difficult, perhaps impossible, to eradicate large-scale addiction until we revamp this policy." This outspoken comment came from Dr. Marie Nyswander, formerly of the Public Health Service Hospital at Lexington, Kentucky. The occasion marked the publication of her book, "The Drug Addict As a Patient" (Grune & Stratton).

Dr. Nyswander, consultant to the New York City Department of Health and senior supervising psychiatrist at the Postgraduate Center for Psychotherapy in New York, attributes the doctor's present helplessness to the government's interpretation of the Harrison Narcotic Act, the basic federal law covering drug addiction.

At the recent meeting of the Hudson County Medical Society, the guest speaker was Dr. Kathleen E. Roberts of the Department of Medicine, research assistant at Memorial Center and Cornell University Medical College, and assistant attending physician at Memorial Center, New York. "Electrolytes" was the subject of Dr. Roberts' scholarly presentation.

Announcement of a diabetes study group under the direction of Dr. Elaine P. Ralli has been made. In 1928, Dr. Ralli started the first diabetic clinic at Bellevue Hospital. Currently, she is medical director of the outpatient services of the New York City Department of Hospitals and associate professor of medicine at New York University College of Medicine. The association of N.Y.U. College of Medicine with the city-owned Bellevue Hospital has provided the opportunity for this uniquely comprehensive investigation, conducted by Dr. Ralli, of the disease in human subjects. Dr. Mary E. Dumm, assistant professor in the department of medicine, is responsible for the experimental aspects of the program. She is assisted by several research technicians.

Discovery of a virus that for the first time consistently causes leukemia in both adult and infant mice was reported by investigators from the Sloan-Kettering Institute for Cancer Research, New York, at the annual meeting in New York of the American Association for Cancer Research. The virus, discovered by Dr. Charlotte Friend of the Institute, differs from other viruses that cause leukemia in mice. The others do so only if inoculated into infant mice a few hours after birth. The first evidence of the disease is apparent several months later. Mice infected with Dr. Friend's virus showed the first sign of leukemia, enlargement of the spleen, 14 to 21 days after inoculation. The animals subsequently became acutely ill with fully developed leukemia and died within two or three months.

Recently the Society of Medical Psychoanalysts presented in New York a symposium on "Schizophrenia as Seen in Psychoanalytic Office Practice." Dr. Lilly Ottenheimer, associate clinical professor of psychiatry, New York Medical College, was chairman of the symposium. "Schizophrenic Consciousness and Practice" was discussed by Dr. Elizabeth Kilpatrick, member of the board of trustees, American Institute of Psychoanalysis; and by Dr. Clara Thompson, executive director, William Alanson White Institute of Psychiatry. The moderator for the discussion on "Anxiety and Panic, and Other Problems" was Dr. Cornelia B. Wilbur, associate in psychiatry, New York Medical College.

Dr. Adele Secular, assistant visiting neuropsychiatrist at Bellevue Hospital, New York, was a panel member on "Some Special Problems in the Treatment of Schizophrenia." "The Selection of Schizophrenic Patients in Office Practice: Consideration of Some Pertinent Factors" was discussed by Dr. Jane M. Rioch, Fellow, William Alanson White Institute of Psychiatry. "Treatment of Asocial Tendencies in Ambulatory Schizophrenia" was discussed by Dr. Mary White Hinckley, member of the faculty of the William Alanson White Institute of Psychiatry.

TEXAS. Dr. G. Lucile Robey has been chosen "Typical Business or Professional Woman" by the Business and Professional Women's Club of Houston, which she has served as president. She has also been chairman of the health and safety committee for the local club and the state federation, and chairman of the international relations committee.

General

Latest advances in nutrition were described at the twentieth meeting of the American Institute of Nutrition, held jointly with the Federation of American Societies for Experimental Biology.

Working with maternal pyridoxine (vitamin B_6) deficiency before and during pregnancy. Dr. Margaret Ross and Dr. Ruth Pike of Pennsylvania State University found that on a complete diet, the

serum protein and non-protein nitrogen of the rat are similar to those of the pregnant human, but a B_6 deficiency at this time causes changes similar to those in nitrogen values found in toxemias of pregnancy.

Dr. Selma E. Snyderman and Dr. L. Emmett Holt, Department of Pediatrics, New York University College of Medicine, working with normal infants, concluded that it is unnecessary to supplement milk or normal formulas with lysine, since infants require less than 90 mg. of lysine per Kg. per day, and regular cow's milk formulas may supply as much as 270 mg. of lysine per day.

Studying niacin-tryptophan relationships in the induction of pellagra, Dr. M. K. Horwitt, Department of Biological Chemistry, University of Illinois College of Medicine, and Dr. Grace A. Goldsmith, of Tulane University, in separate investigations, concluded that about 55 mg. of dietary tryptophan is equivalent to one mg. niacin.

Amid tributes to Sigmund Freud's role in the development of psychiatry on the one hundredth anniversary of his birth, the American Psychiatric Association heard new evidence at its annual meeting in Chicago of the rising tide of scientific investigation aimed at the biochemical and physiologic bases of mental illness. Dr. Veronica M. Pennington of Mississippi State Hospital, Whitfield, Mississippi, reported on tranquilizing agents.

At the annual clinical meeting of the New York state chapter of the American College of Chest Physicians in New York, "Prognosis in Unresected Bronchogenic Carcinoma" was presented by Dr. Katharine R. Boucot of Philadelphia.

Dr. Hilda R. Knobloch, formerly assistant professor in the division of maternal and child health, Johns Hopkins University School of Hygiene and Public Health, Baltimore, has been appointed to the staff of the Children's Hospital, Columbus, as associate professor of pediatrics at the Ohio State University College of Medicine, Columbus. She will devote most of her time to teaching and research in the problems of development in infancy and the preschool years.

Retirement of Dr. Estella Ford Warner, chief of the program development branch of the division of international health, was announced recently by the Public Health Service, Department of Health, Education, and Welfare. She is planning to live in Albuquerque, New Mexico. Dr. Warner's contribution to the field of VD control through education has long been recognized by the American Social Hygiene Association.

In 1932, Dr. Warner became the first woman to be commissioned in the Public Health Service. She has held many important posts in public health, and between 1952 and 1955, she was stationed in New Delhi, India, where she assisted the Government of India in planning public health technical assistance programs.

The possibility of a deficiency or an aberration in the metabolism of vitamin B_6 in infants subject to convulsive seizures should be considered, members of the American Academy of Pediatrics were told. The report was based on a study made by Dr. Arild E. Hansen, chairman, Department of Pediatrics, and Dr. Doris J. D. Adam, assistant professor, both of the University of Texas Medical Branch at Galveston.

The Intermountain Pediatric Society held its annual meeting in Sun Valley, Idaho, June 7 to 9, 1956. Dr. Edith L. Potter, Chicago, discussed "Pathology of Prematurity."

Recently, the Elizabeth General Hospital and Dispensary, Elizabeth, New Jersey, at its monthly cardiac conference, presented "Significance of Murmurs in Children" and "Electrocardiographic Abnormalities in Children." Presentations of cases from clinic were made, with discussion of diagnoses and management, by Dr. Gertrude H. B. Nicolson, author of the recent book, "Clinical Electrocardiography in Children" (Macmillan). Dr. Nicolson is chief of the Children's Cardiac Clinic, St. Luke's Hospital, New York, and Instructor in cardiology, Columbia Presbyterian Medical Center. She participated recently in the Fireside Conferences of the American College of Chest Physitions in Chicago. The subject discussed was "Cardiac Function."

International

Great Britain. At the annual meeting of the British Society of Gastroenterologists in Oxford in November 1955, Dr. Edith Bülbring (Oxford) described her work on ionic and electropotential variations at the cell membrane of smooth muscles.

The importance of treating minor ailments in general practice was underscored by Dr. Bertha Turner, clinical assistant at the Elizabeth Garrett Anderson Hospital, London, before a symposium at the Royal Society of Medicine. She warned against neglecting the "chronic" patient, pointing out that it is not unknown for neurotic patients to develop cancer.

At the annual general meeting of the North of England Obstetrical and Gynaecological Society held in Manchester on January 20, 1956, the following officers were elected for the ensuing year: vice-president, Miss E. M. Mills of Manchester; and hon. reporting secretary, Miss U. M. Lister of Leeds.

EDITORIAL FORECAST

September 1956

"Pneumoperitoneum: A New Tool in the Management of Esophageal Hiatus Hernia," by Bernard Maisel, M.D., William Cooper, M.D., and Frank Glenn, M.D.

As is customary, the September JOURNAL will be devoted largely to Association news and business. In this number will be found the summarized minutes of the Annual Meeting held June 7, 8, 9, and 10, 1956, in Chicago, Illinois.

"The Whole Patient," by Camille Mermod, M.D., is the Inaugural Address by the President.

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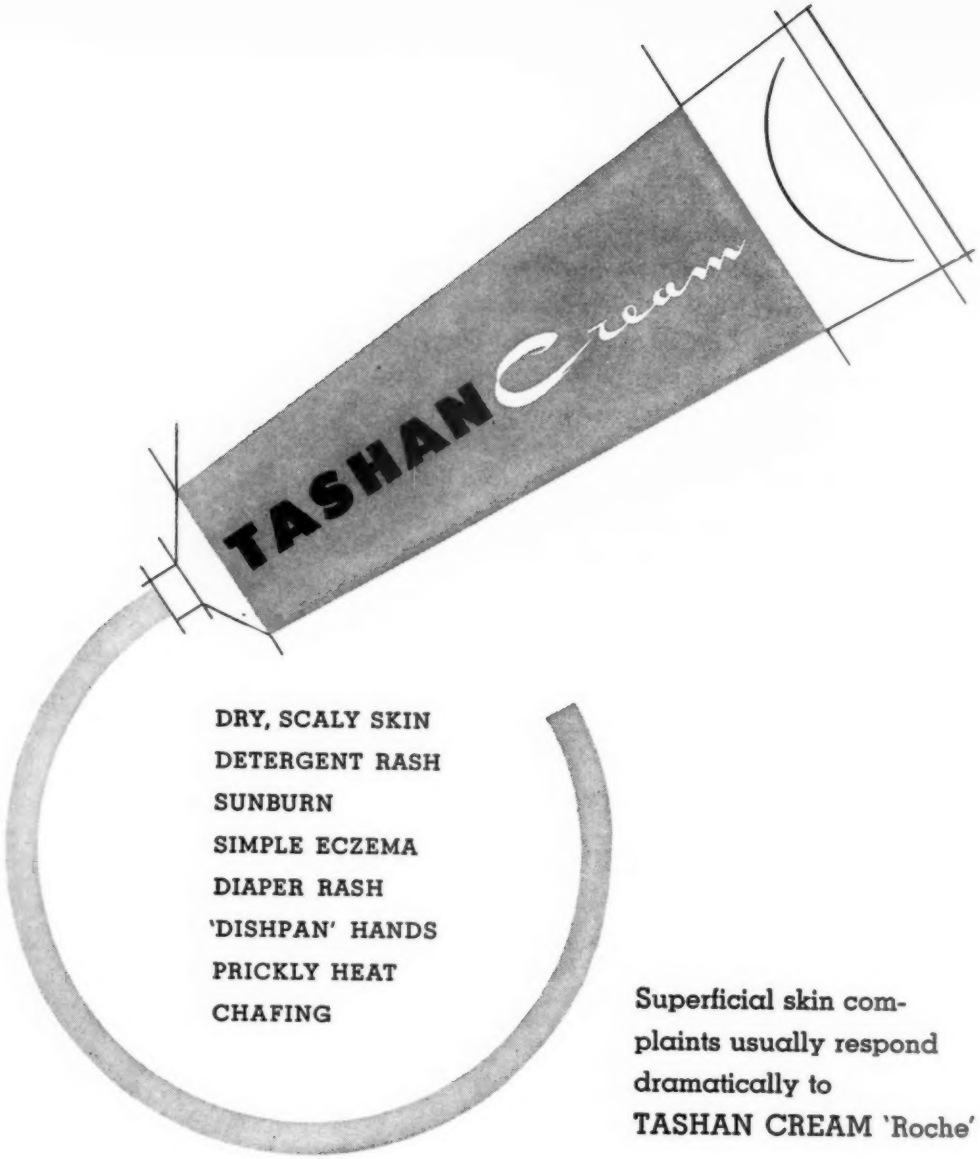

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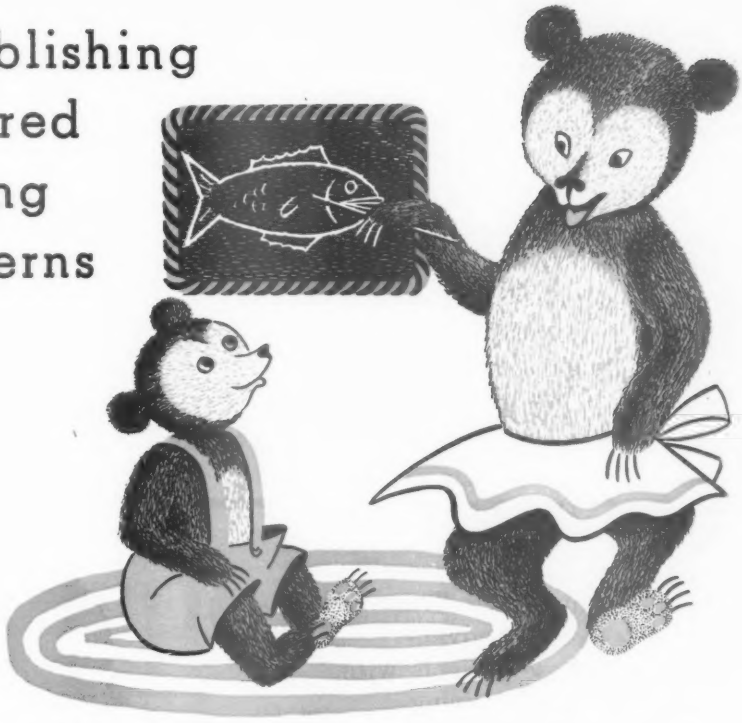

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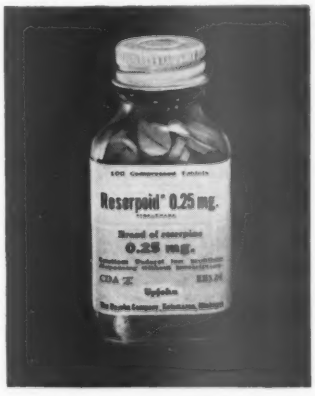

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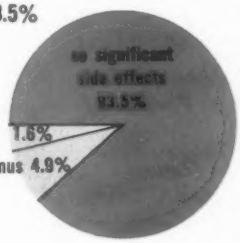

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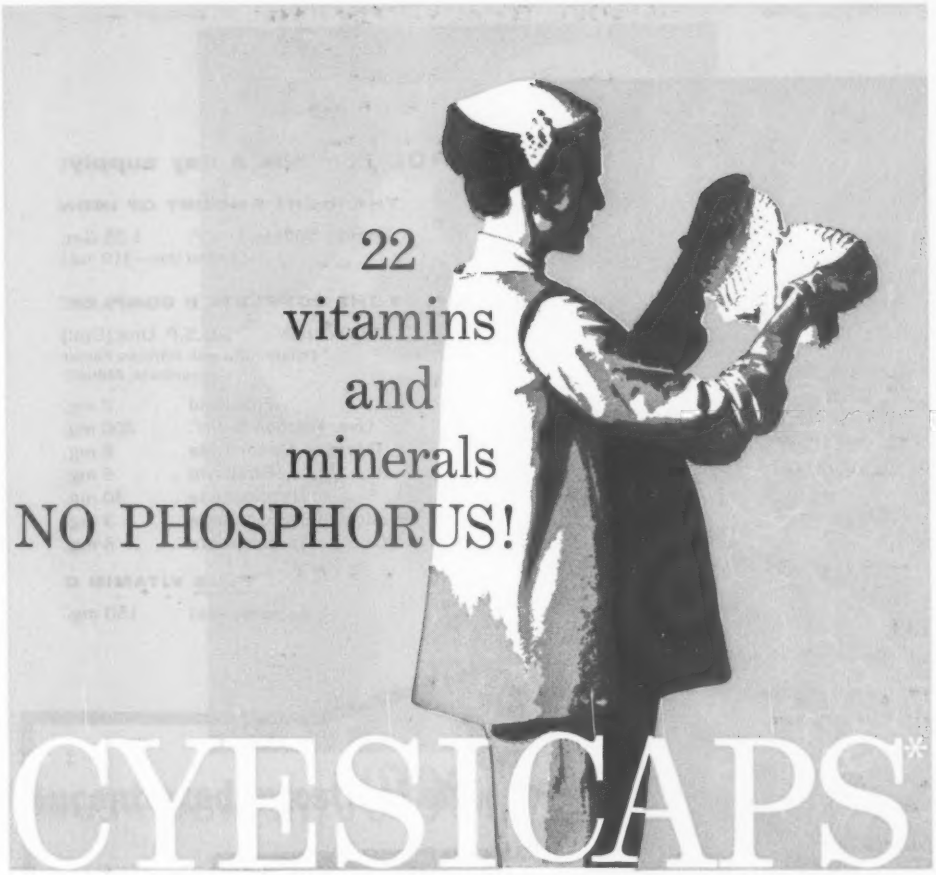


PRENATAL VITAMIN-MINERAL CAPSULES LEDERLE

A single prescription for CYESICAPS assures both mother and child the extra nutrients essential throughout pregnancy and lactation. This phosphorus-free formula includes 12 vitamins, 10 minerals, and purified intrinsic factor concentrate. Calcium is supplied as calcium lactate, its most easily assimilated form.

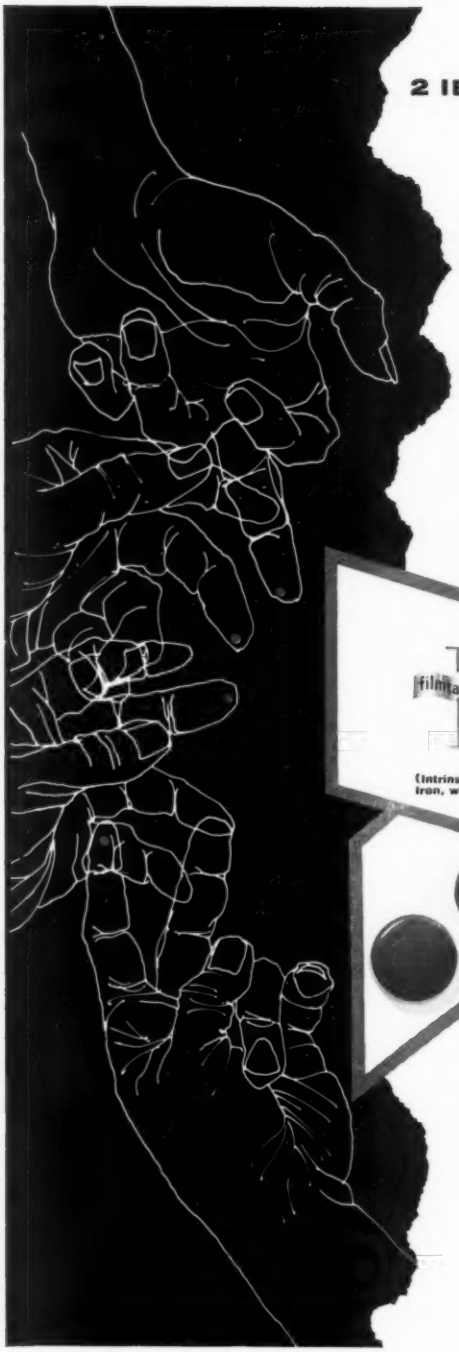
For maximum effectiveness, for greater patient comfort, CYESICAPS Capsules are *dry-filled* and sealed—a Lederle exclusive. No oils, no paste, no aftertaste!

Dosage: 1 or 2 capsules 3 times daily.

Six capsules supply:	
Calcium (as Lactate)	600 mg.
Calcium Lactate	3720 mg.
Intrinsic Factor Concentrate	1.5 mg.
Vitamin A	6,000 U.S.P. Units
Vitamin D	400 U.S.P. Units
Thiamine Mononitrate (B_1)	1.5 mg.
Riboflavin (B_2)	3 mg.
Niacinamide	15 mg.
Vitamin B_{12}	6 mcgm.
Ascorbic Acid (C)	150 mg.
Folic Acid	2 mg.
Pyridoxine HCl (B_6)	6 mg.
Calcium Pantothenate	6 mg.
Vitamin K (Menadione)	1.5 mg.
Iron (as $FeSO_4$ exsiccated)	15 mg.
Vitamin E (as Tocopheryl Acetate)	6 I.U.
Iodine (as KI)	0.1 mg.
Fluorine (as CaF_2)	0.09 mg.
Copper (as CuO)	0.9 mg.
Potassium (as K_2SO_4)	5 mg.
Manganese (as MnO_2)	0.3 mg.
Magnesium (as MgO)	0.9 mg.
Molybdenum (as $Na_2MoO_4.2H_2O$)	0.15 mg.
Zinc (as ZnO)	0.5 mg.

Lederle LEDERLE LABORATORIES DIVISION *AMERICAN CYANAMID COMPANY* PEARL RIVER, NEW YORK

*REG. U.S. PAT. OFF.



2 IBEROL Filmtabs a day supply:

THE RIGHT AMOUNT OF IRON

Ferrous Sulfate, U.S.P. . . . 1.05 Gm.
(Elemental Iron—210 mg.)

PLUS THE COMPLETE B COMPLEX*

Bevidoral® . . . 1 U.S.P. Unit (Oral)
(Vitamin B_{12} with Intrinsic Factor Concentrate, Abbott)

Folic Acid . . . 2 mg.
Liver Fraction 2, N.F. . . . 200 mg.
Thiamine Mononitrate . . . 6 mg.
Riboflavin . . . 6 mg.
Nicotinamide . . . 30 mg.
Pyridoxine Hydrochloride . . . 3 mg.
Calcium Pantothenate . . . 6 mg.

PLUS VITAMIN C

Ascorbic Acid . . . 150 mg.

filmtab® Iberol®

(Intrinsic Factor Concentrate, B_{12}, Iron, with other Vitamins, Abbott)

IS IRON PLUS

Potent Antianemia Therapy plus basic Nutritional Support

***The PLUS that makes the difference**

Vilter[1] reported that a diet rich in the B-complex vitamins should be prescribed when treating nutritional anemia, because of the importance of the B complex to cellular metabolic functions.

Abbott

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1. Vilter, Richard W., Am. J. Clin. Nut., 3:72, Jan.-Feb., 1955.

Concentrated intestinal effect for safer bowel surgery

SULFASUXIDINE

SUCCINYLSULFATHIAZOLE

SULFASUXIDINE'S bacteriostatic action is concentrated in the gut because **SULFASUXIDINE** is essentially nonabsorbable. When given before and after bowel surgery, bacterial growth is suppressed, danger of local infection is minimized. Valuable as adjunctive therapy in acute and chronic colitis. Virtually nontoxic.

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MERCK SHARP & DOHME

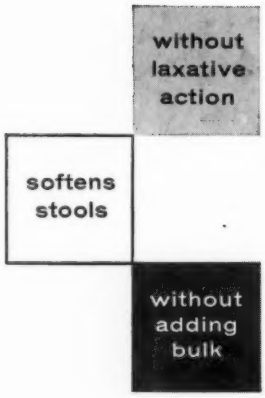
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

A new MEAD specialty for all ages

Colace

DIOCTYL SODIUM SULFOSUCCINATE, MEAD*

softens stools for easy passage



Continued clinical studies† with Colace confirm its wide usefulness and safety in chronic constipation and in other bowel problems of everyday practice.

†Antos, R. J.: A New Approach to the Treatment of Severe Constipation, Southwestern Medicine 37: 236-237 (April) 1956.

Colace, by reducing surface tension, increases the wetting and penetrating efficiency of fluids in the colon, keeping stools soft.

Colace is indicated in the treatment or prevention of chronic constipation or fecal impaction, or whenever stool softness is required.

usual oral dosage

Colace Capsules... *for adults and older children*

Mild constipation or prevention:
50 or 100 mg. (one or two 50 mg. capsules) daily

Moderate or severe constipation:
Initially—100 mg. (two 50 mg. capsules) b.i.d. for 3 days

For Maintenance—50 or 100 mg. (one or two 50 mg. capsules) daily

Colace Liquid... *for infants and children under 6 years*

Initially: 1 to 2 cc. twice daily for 3 days
For Maintenance: 0.5 to 1 cc. twice daily

in enemas

Retention Enema: 5 cc. Liquid in up to 90 cc. of enema fluid.

Flushing Enema: 1 cc. Liquid for each 100 cc. of enema fluid.

Supplied | Colace Capsules (50 mg.) and
Colace Liquid (1% Solution—10 mg. per cc.)

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